CONSTRUCT ARMORY

MARINE CORPS AIR FIELD

QUANTICO, VIRGINIA

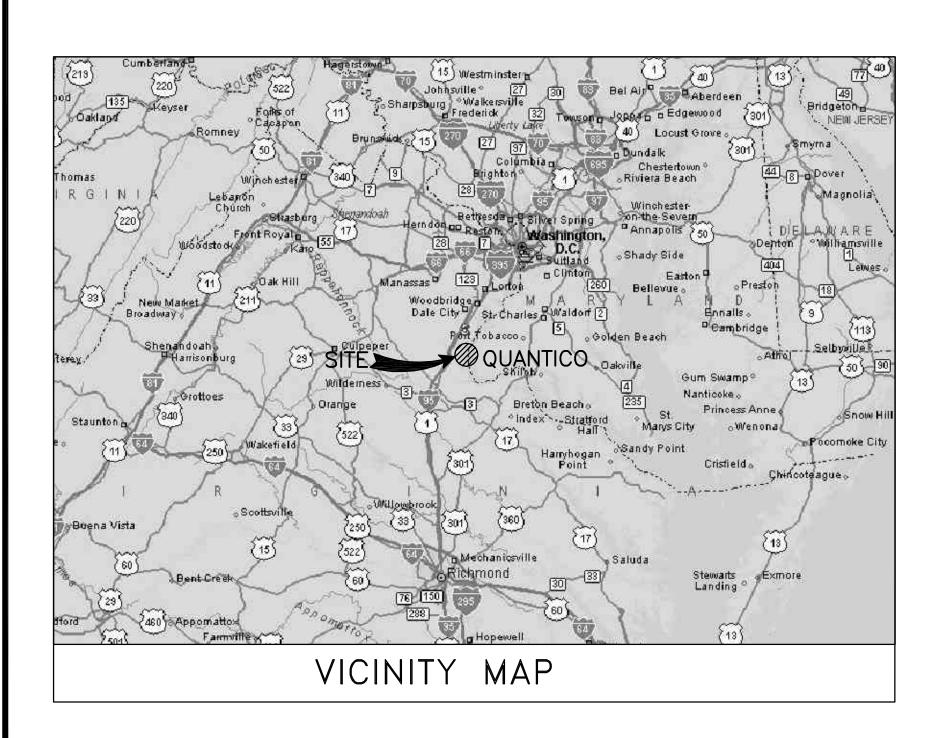
WORK REQUEST # 00194 PROJECT NUMBER: # QA023R CONSTRUCTION CONTRACT # N62477-00-C-1048

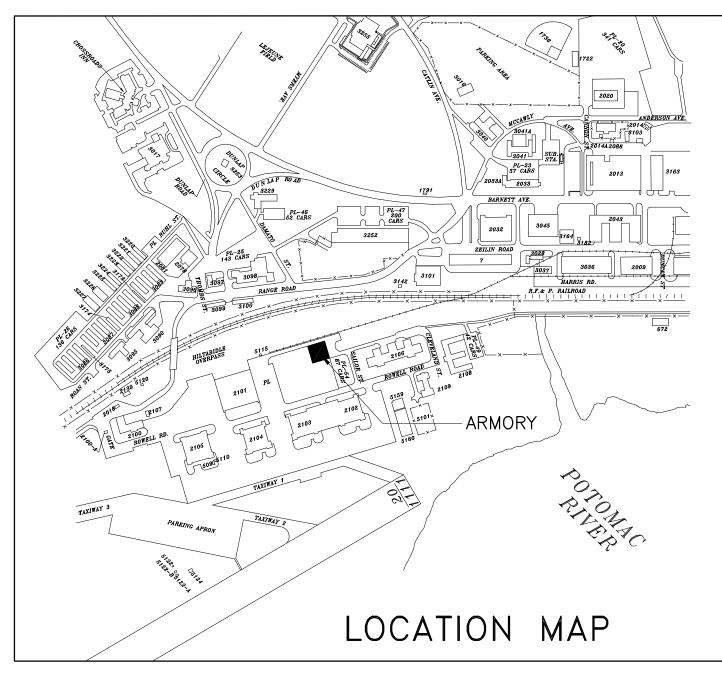
		DRAWING LIST	ı						
NAVFAC No.	DWG.	DESCRIPTION	SHT						
3179 470	T-1	TITLE SHEET	01						
3179 471	C-1	LEGEND, NOTES, AND DETAILS	02						
3179 472	C-2	SITE PLAN	03						
3179 473	C-3	SITE DETAILS	04						
3179 474	C-4	SEWER AND WATER PROFILES	05						
3179 475	A-1	FLOOR PLAN, MATERIAL SCHEDULE AND FINISH SCHEDULE	06						
3179 476	A-2	EXTERIOR ELEVATIONS	07						
3179 477	A-3	BUILDING SECTIONS AND DETAILS	08						
3179 478	A-4	WALL SECTIONS AND DETAILS	09						
3179 479	A-5	ROOF PLAN AND DETAILS	10						
3179 480	A-6								
3179 481	A-7	DOOR AND WINDOW TYPES, DETAILS AND SCHEDULES							
3179 482	S-1	NOTES	13						
3179 483	S-2	FOUNDATION PLAN, NOTES AND SCHEDULES	14						
3179 484	S-3	HOLLOW CORE CEILING PLAN AND NOTES	15						
3179 485	S-4	ROOF FRAMING PLAN	16						
3179 486	S-5	TYPICAL DETAILS	17						
3179 487	P-1	GENERAL NOTES AND LEGEND	18						
3179 488	P-2	PLUMBING PLAN	19						
7170 400	NA 1	MECHANICAL CENEDAL NOTES AND LECEND	20						
3179 489 3179 490	$\frac{M-1}{M-2}$	MECHANICAL GENERAL NOTES AND LEGEND MECHANICAL FLOOR PLAN	20						
3179 490	M-2 $M-3$	MECHANICAL PLOOK PLAIN MECHANICAL DETAILS	22						
3179 491	$\frac{M-5}{M-4}$	MECHANICAL DETAILS MECHANICAL SCHEDULES AND DETAILS	23						
3179 492	$\frac{M-4}{M-5}$	MECHANICAL SCHEDOLLS AND DETAILS MECHANICAL CONTROL LEGEND AND DIAGRAMS	24						
J1/3 43J	- IVI — J	WESTANISAL SONTINGE ELGEND AND DIAGNAMS	24						
3179 494	E-1	ELECTRICAL LEGEND, SCHEDULE AND NOTES	25						
3179 495	E-2	FLOOR PLAN-LIGHTING	26						
3179 496	E-3	FLOOR PLAN-POWER	27						
3179 497	E-4	LIGHTING DETAILS	28						
3179 498	E-5	ELECTRICAL RISER DIAGRAMS	29						

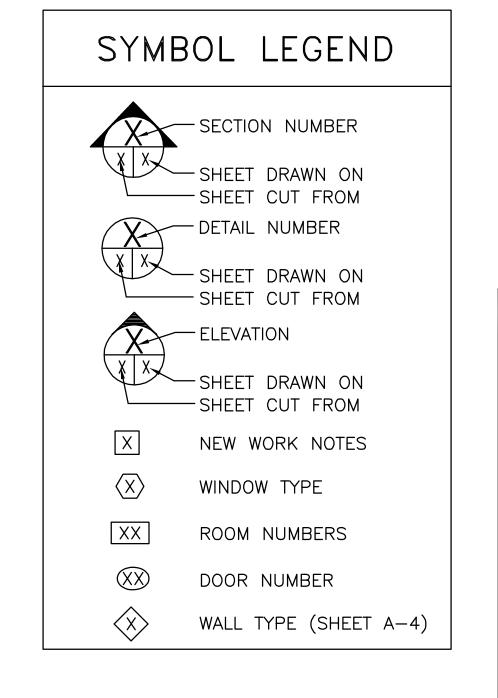


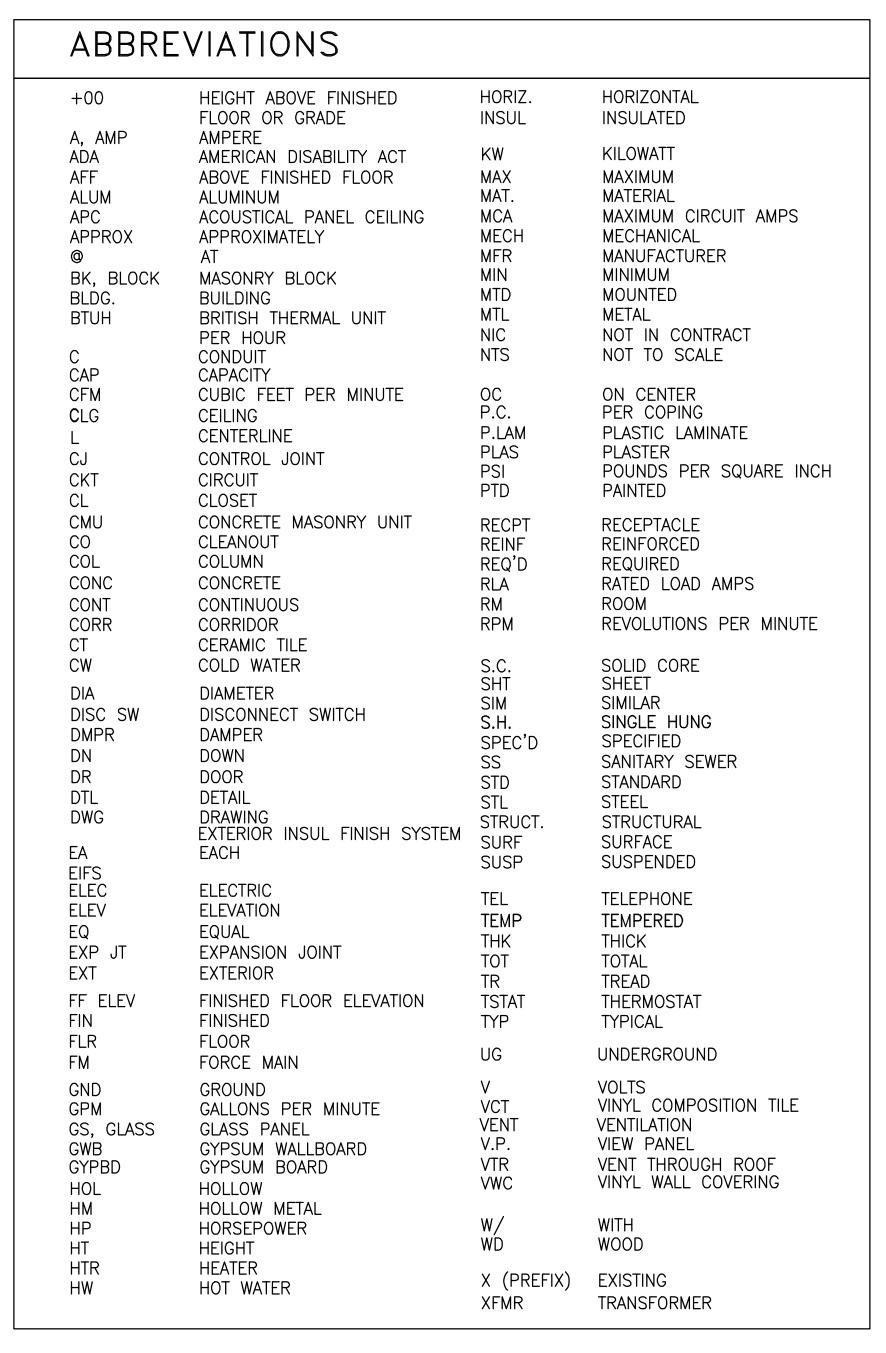
GENERAL NOTES

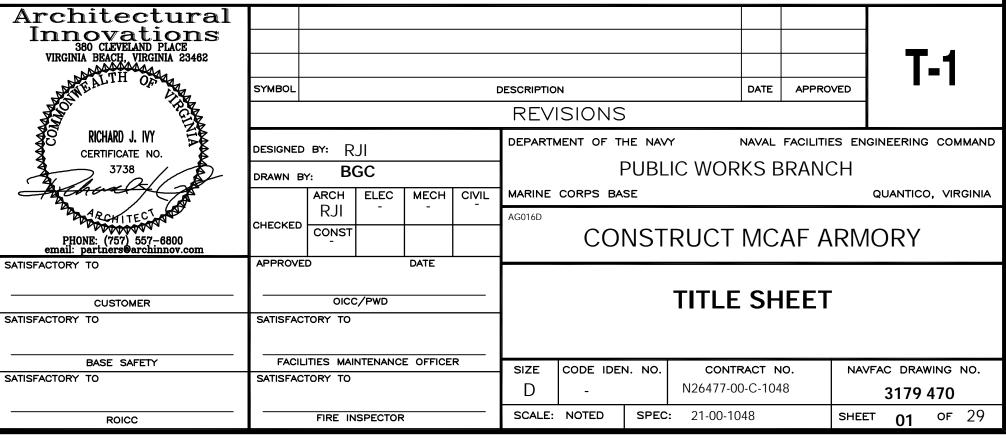
- UNLESS OTHERWISE INDICATED, ALL NOTES, DETAILS AND FEATURES DRAWN FOR ONE CONDITION SHALL BE APPLICABLE TO SIMILAR CONDITIONS WHETHER OR NOT IT IS SPECIFICALLY INDICATED OR NOTED.
- THE CONTRACTOR SHALL BEAR ALL RESPONSIBILITY FOR CORRECTIVE ACTION DUE TO THE CONTRACTORS FAILURE TO COORDINATE WORK.
- ALL DIMENSIONS ARE FACE OF MASONRY TO FACE OF MASONRY.

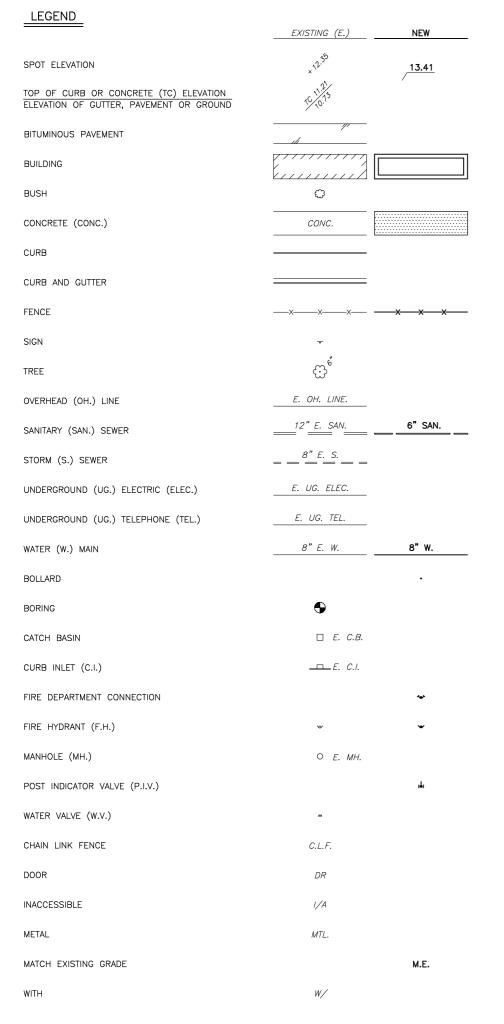






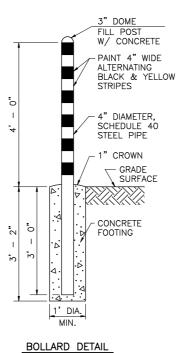


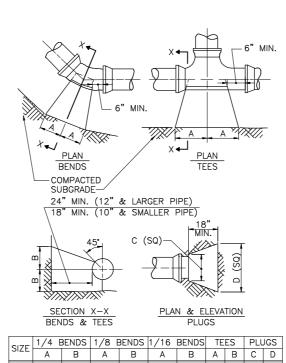




SURVEY NOTES:

- TOPOGRAPHIC SURVEY PREPARED BY C. ALLAN BAMFORTH, JR., ENGINEER— SURVEYOR LTD., NOVEMBER 14, 2000.
- 2. THE EXISTENCE, SIZE AND/OR LOCATION OF UTILITIES ARE NOT GUARANTEED BY THIS SURVEY. UTILITIES SHOWN ARE BASED ON ABOVE GROUND STRUCTURES AND AVAILABLE UTILITY PLANS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- 3. ELEVATIONS ARE IN FEET AND ARE BASED ON QUANTICO CONTROL STATION NO. 24.
- 4. TEMPORARY BENCHMARK (TBM) IS END OF RADIAL CURB AS SHOWN ON SHEET C-2.

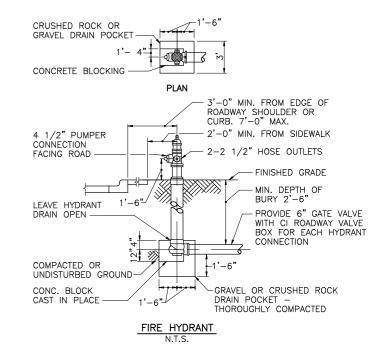


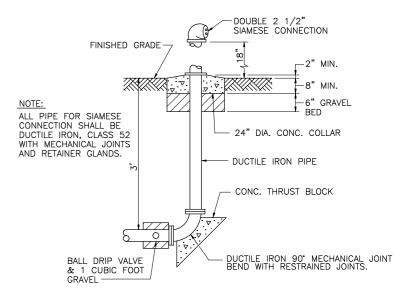


N.T.S.

THRUST BLOCKS

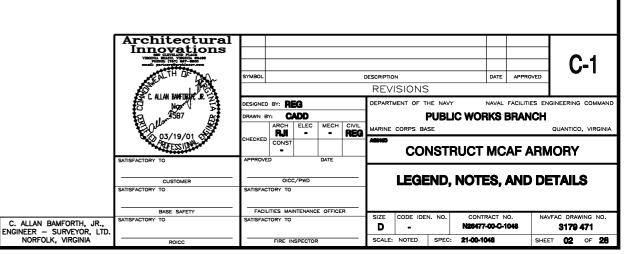
6" 16" 10" 9" 10" 6" 8" 10" 12" 10" 21" 8" 22" 13" 12" 13" 8" 10" 13" 16" 12" 29"

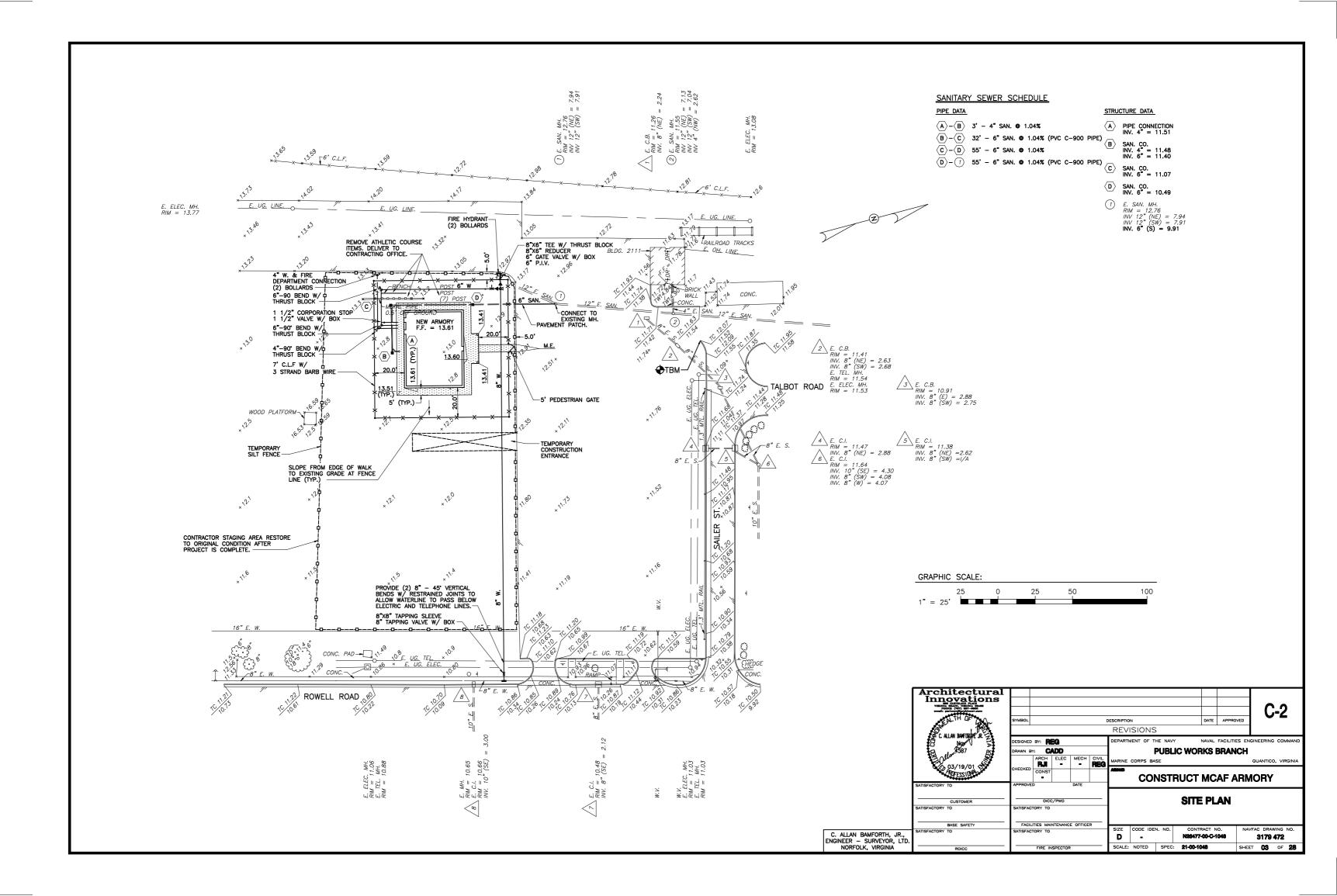


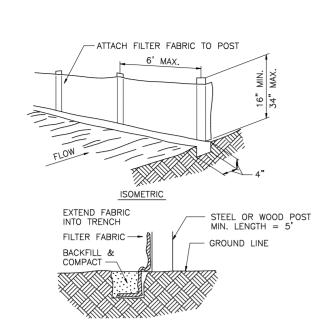


FIRE DEPARTMENT CONNECTION

N.T.S.



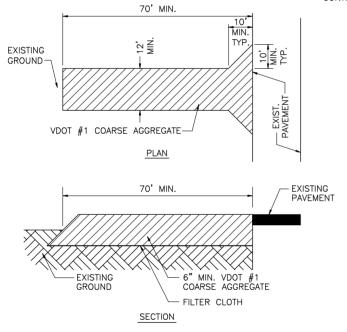




SILT FENCE SF-3.05 * N.T.S.

SECTION AT BASE

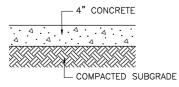
* REFERS TO EROSION CONTROL MEASURES CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK



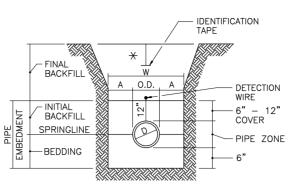
STONE CONSTRUCTION ENTRANCE CE-3.02 * N.T.S.

SIDEWALK NOTE:

PROVIDE CONTROL JOINTS ® SPACING EQUAL
TO WIDTH OF SIDEWALK AND 1/2" EXPANSION
JOINTS EVERY 40' OF STRAIGHT RUN, AT
CHANGES IN DIRECTION AND AGAINST ALL
STRUCTURES AND EXISTING CONCRETE, UNLESS
NOTED OTHERWISE.



CONCRETE WALK SECTION N.T.S.



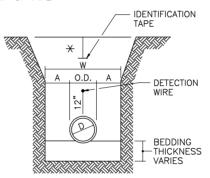
FOR PLASTIC PIPES

PIPE DIA. "D"	MAXIMUM "A"
6" TO 15"	8"

PROVIDE BEDDING
IN ACCORDANCE WITH
THE SPECIFICATIONS.

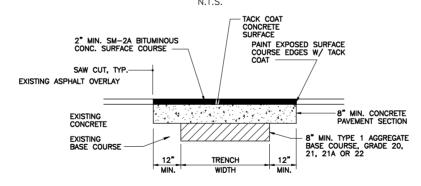
* 12" BELOW FINISHED GRADE IN UNPAVED AREAS. 6" BELOW TOP OF SUBGRADE IN PAVED AREAS.

MAXIMUM TRENCH WIDTH "W" TAKEN AT TOP OF PIPE



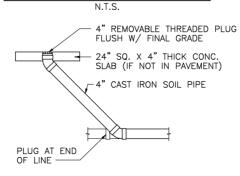
FOR NON-PLASTIC PIPES

PIPE TRENCH WIDTH DETAIL N.T.S.

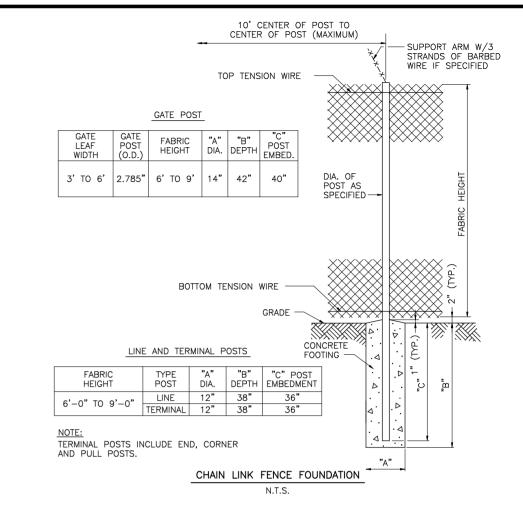


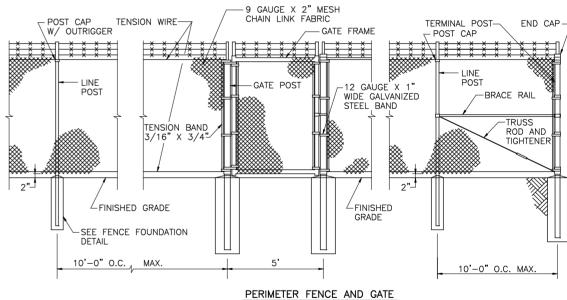
PROVIDE MINIMUM THICKNESSES SHOWN OR MATCH EXISTING, WHICHEVER IS GREATER.

BITUMINOUS PAVEMENT PATCH DETAIL



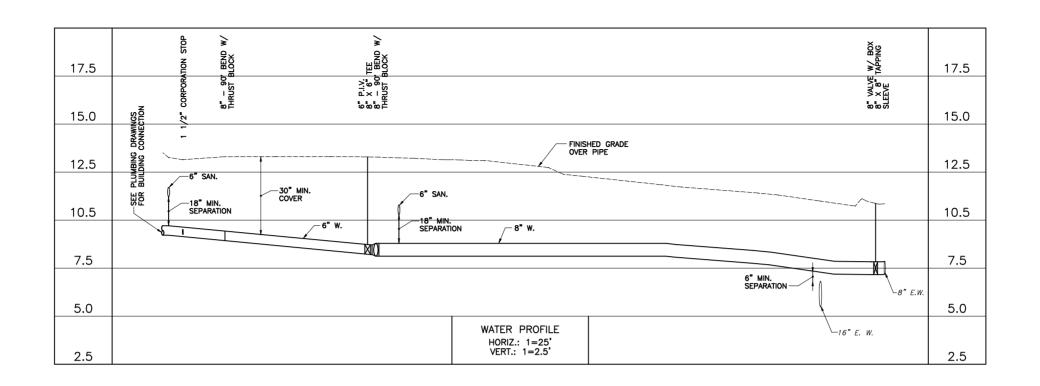
CLEANOUT DETAIL N.T.S.

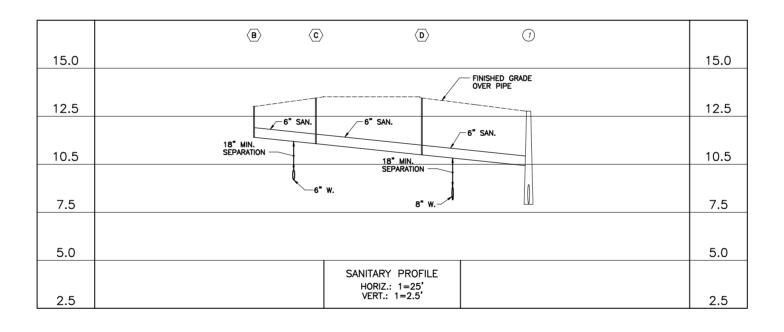




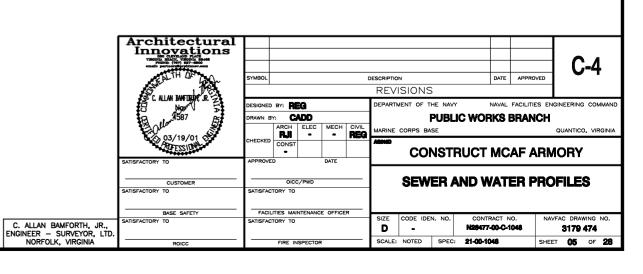
Architectural Innovations DATE APPROVE REVISIONS ONED BY: REG **PUBLIC WORKS BRANCH** WN BY: CADD ARCH FJJ ARINE CORPS BASE **CONSTRUCT MCAF ARMORY** SITE DETAILS ATISFACTORY TO SATISFACTORY TO SIZE C. ALLAN BAMFORTH, JR., ENGINEER — SURVEYOR, LTD NORFOLK, VIRGINIA 3179 473 SCALE: NOTED SPEC: 21-00-1049 SHEET **04** OF **28**

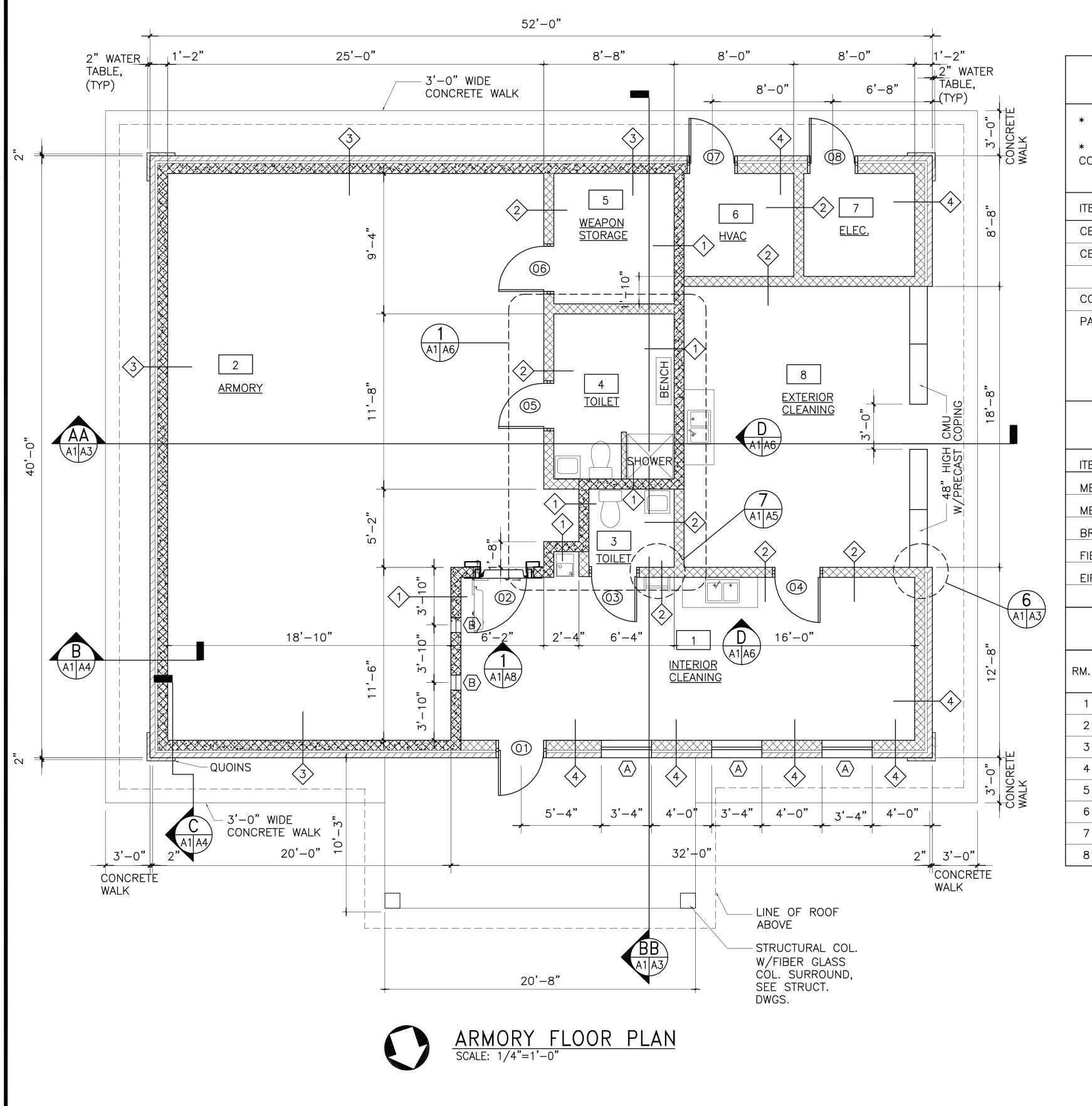
N.T.S.











INTERIOR MATERIAL SCHEDULE

- * PROPRIETARY NAMES FOR COLORS, TEXTURES AND PATTERNS ARE FOR THE PURPOSE OF SELECTIONS ONLY.
- * OTHER MANUFACTURERS' PRODUCTS MAY BE ACCEPTABLE, PROVIDED THEY CLOSELY APPROXIMATE COLORS, TEXTURES AND PATTERNS INDICATED, AND CONFORM TO ALL OTHER SPECIFICATION REQUIREMENTS.

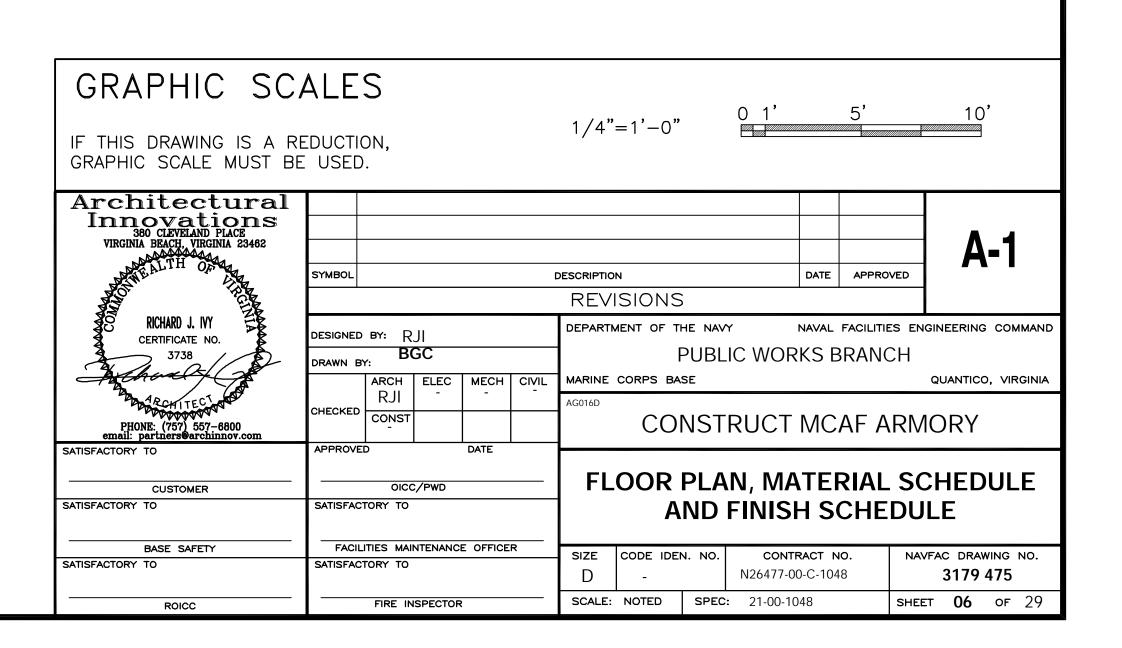
ITEM/MATERIAL	LOCATION	MANUFACTURER	DESCRIPTION/COLOR				
CERAMIC TILE	TOILETS	DAL-TILE	PREMIER, ALMOND 2801				
CERAMIC TILE BASE	TOILETS	DAL-TILE	PREMIER, ALMOND 2801-ABR				
CONCRETE EPOXY FLOORING	WEAPONS STORAGE #2/#5	SONNEBORN	QUARRY TAN-25% BUFF, 25% BRN, 25% LT BEIGE, 25% WHT				
PAINT	WALLS	BENJAMIN MOORE	INT. RM LINEN WHITE				
	CEILINGS	BENJAMIN MOORE	INT. RM LINEN WHITE				
	DOORS	SHERMAN WILLIAMS	SW-2070 SPANISH MOSS				
	DOOR FRAMES	SHERMAN WILLIAMS	SW-2070 SPANISH MOSS				

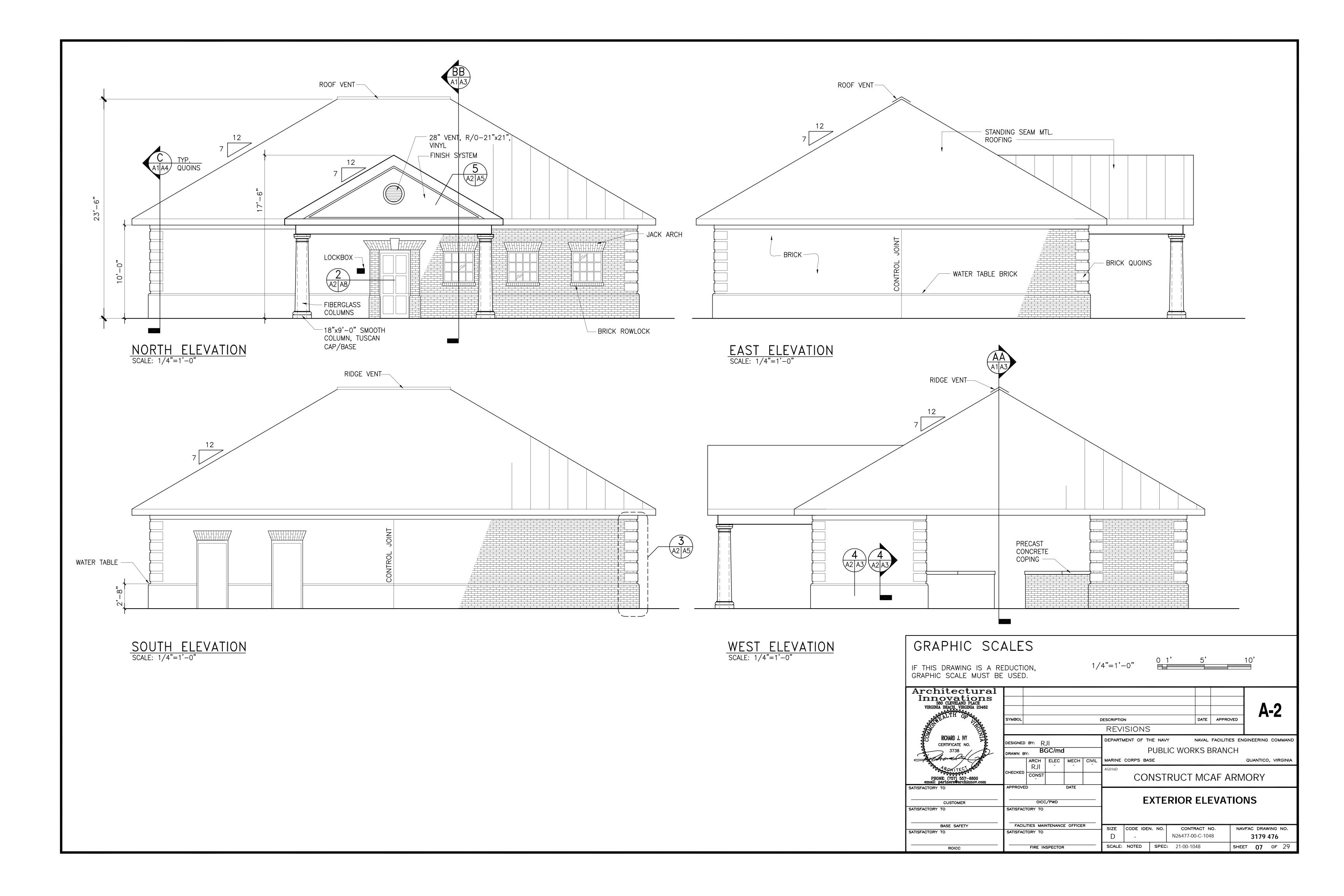
EXTERIOR MATERIAL SCHEDULE

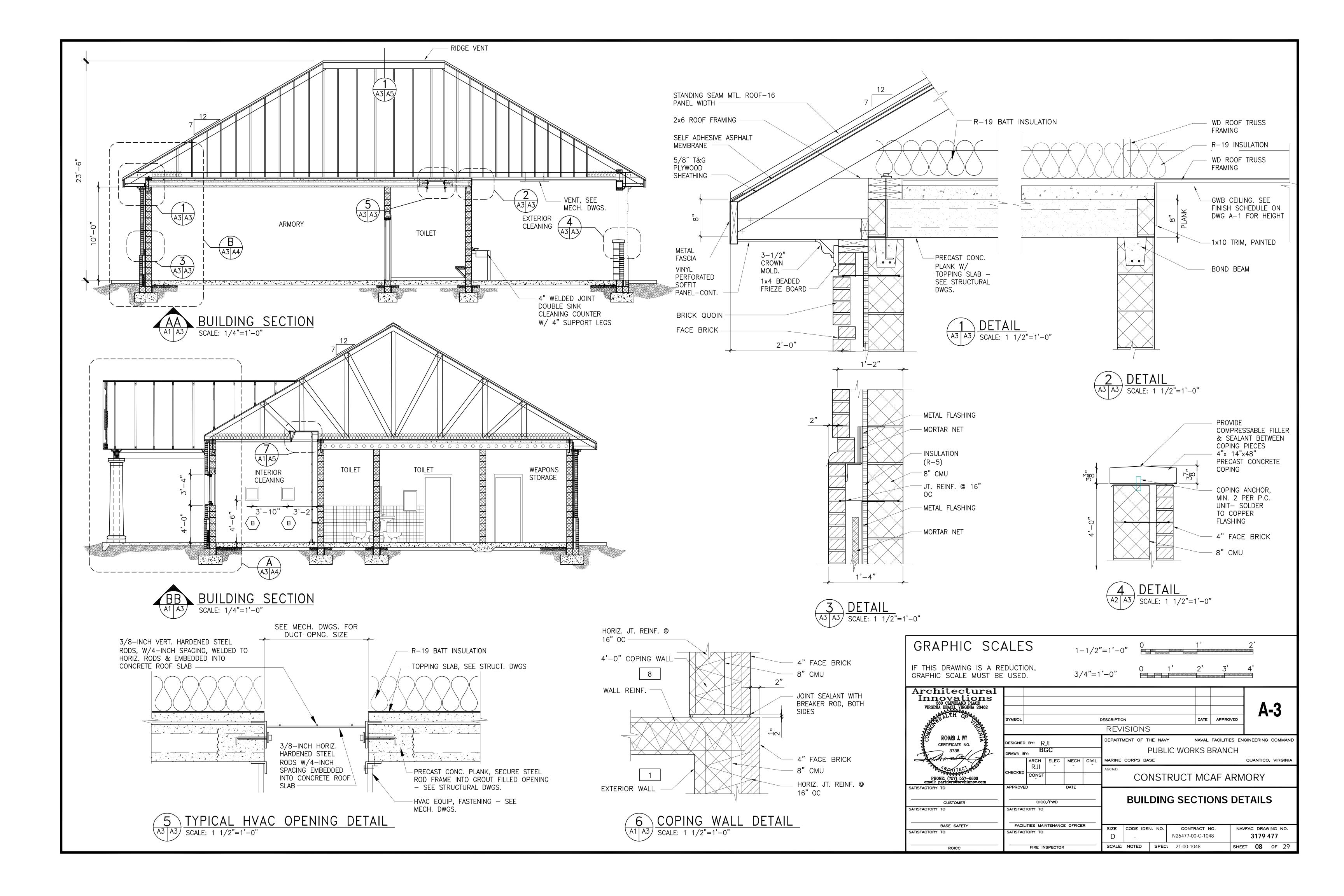
ITEM/MATERIAL	LOCATION	MANUFACTURER	DESCRIPTION/COLOR				
METAL ROOF PANELS	_	UNA-CLAD	FLUOROCARBON STEEL-MEDIUM BRONZE				
METAL FASCIA	_	UNA-CLAD	FLUOROCARBON STEEL-MEDIUM BRONZE				
BRICK	_	BOREN	RED RANGE 02-14-1				
FIBERGLASS	COLUMNS	EDON	RICHMOND BISQUE (BENJAMIN MOORE)				
EIFS	CANOPY FACE	STO	40022 CINNAMON FROST				

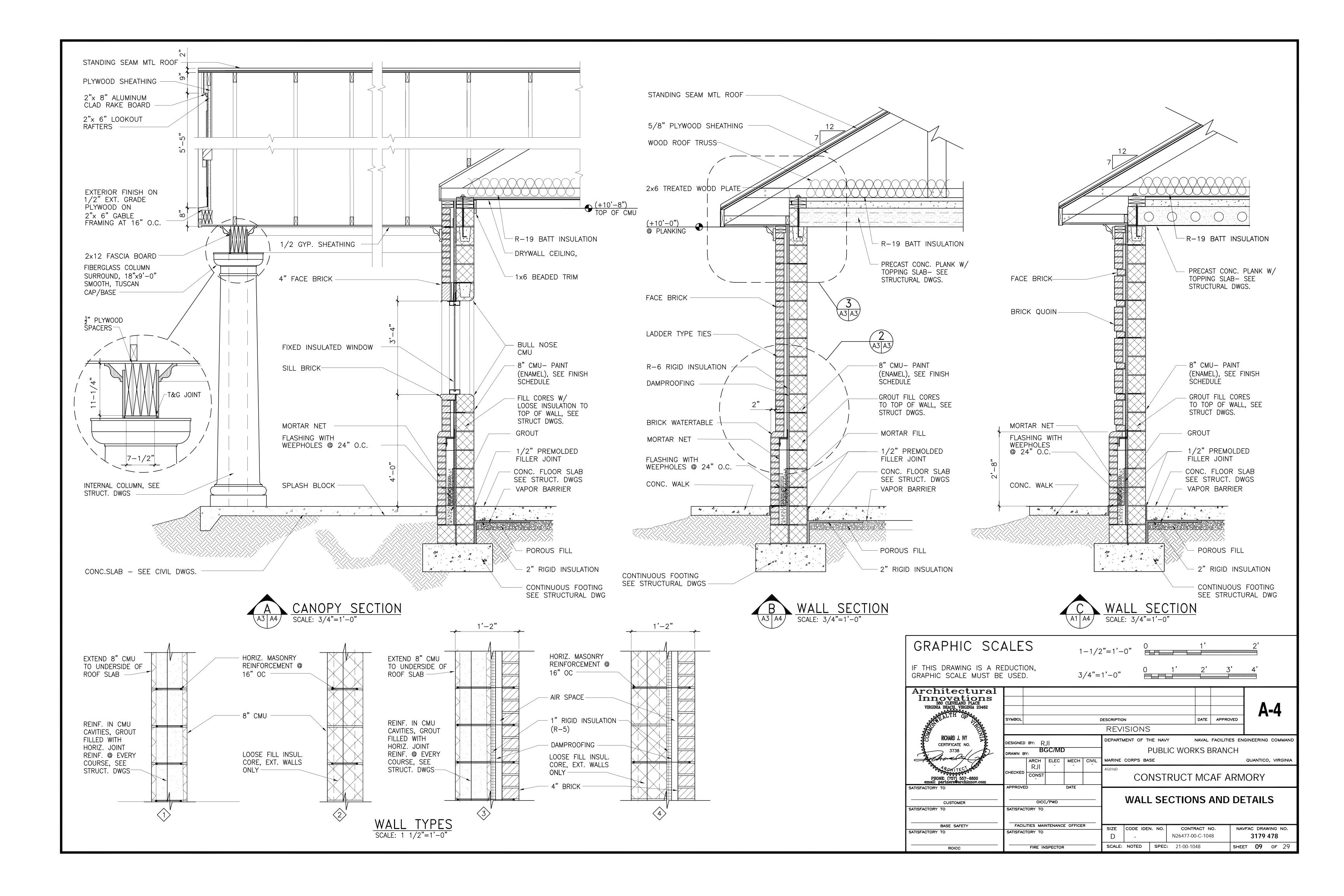
FINISH SCHEDULE

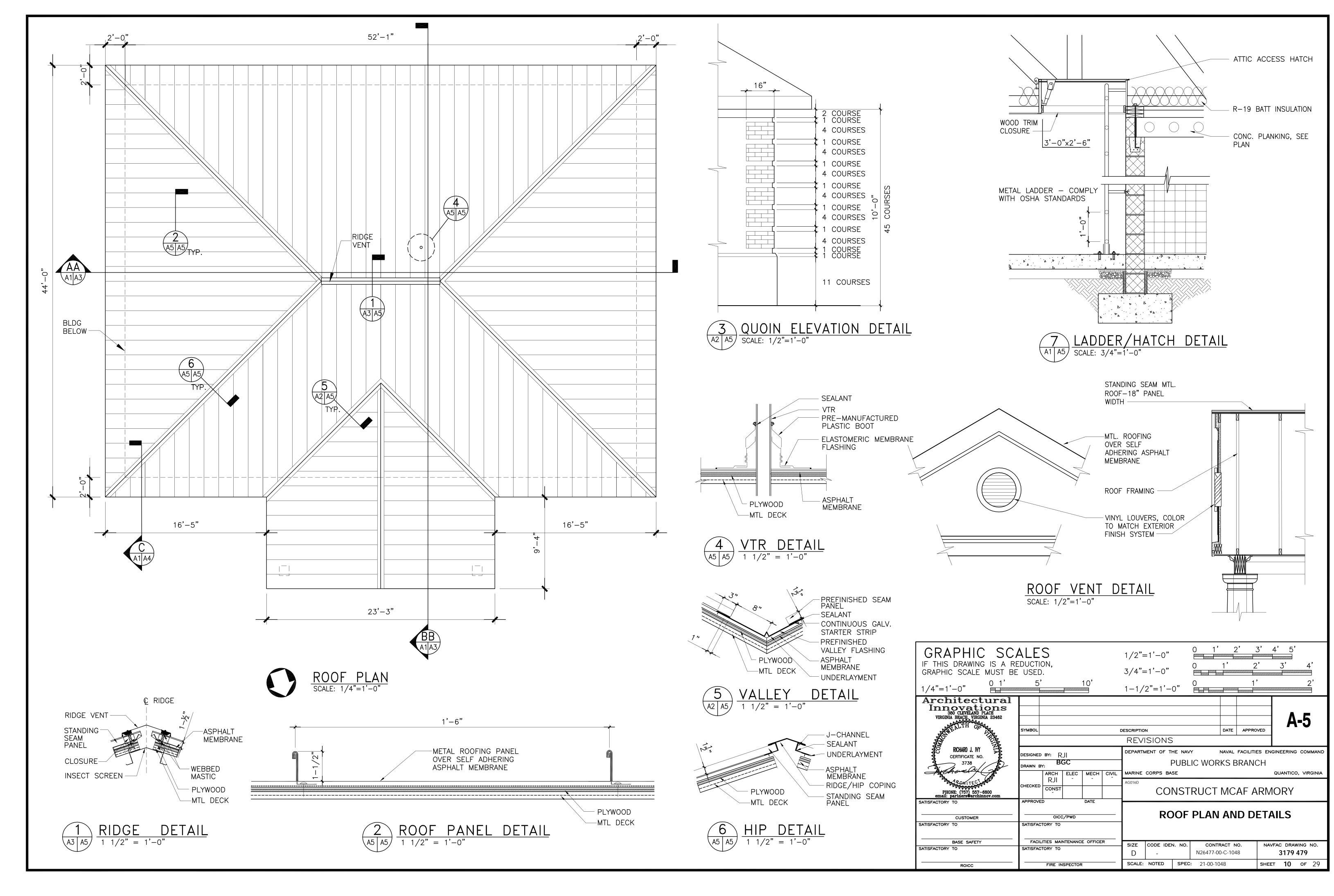
 RM. #	ROOM NAME	FLOOR	BASE	NORTH	H WALL	SOUTI	SOUTH WALL		EAST WALL		WALL	CEILING			NOTES
				MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	HEIGHT	
1	INTERIOR CLEANING	CONC.	NONE	СМО	PAINT	СМИ	PAINT	CMU	PAINT	CMU	PAINT	GWB	PAINT	10'-8"	-
2	ARMORY	CONC.	NONE	СМО	PAINT	СМИ	PAINT	CMU	PAINT	CMU	PAINT	CONC.	PAINT	10'-0"	-
3	TOILET	СТ	СТ	СМИ	PAINT	СМИ	PAINT	CMU	PAINT	CMU	PAINT	CONC.	PAINT	10'-0"	_
4	TOILET	СТ	СТ	СМИ	PAINT	СМИ	PAINT	CMU	PAINT	СМИ	PAINT	CONC.	PAINT	10'-0"	_
5	WEAPONS STORAGE	CONC.	NONE	СМИ	PAINT	СМИ	PAINT	CMU	PAINT	CMU	PAINT	CONC.	PAINT	10'-0"	_
6	HVAC	CONC.	NONE	СМИ	PAINT	СМИ	PAINT	CMU	PAINT	CMU	PAINT	GWB	PAINT	10'-8"	_
7	ELECTRICAL ROOM	CONC.	NONE	СМИ	PAINT	СМИ	PAINT	CMU	PAINT	CMU	PAINT	GWB	PAINT	10'-8"	_
8	EXTERIOR CLEANING	CONC.	NONE	СМИ	PAINT	СМИ	PAINT	CMU	PAINT	СМИ	PAINT	GWB	PAINT	10'-8"	_

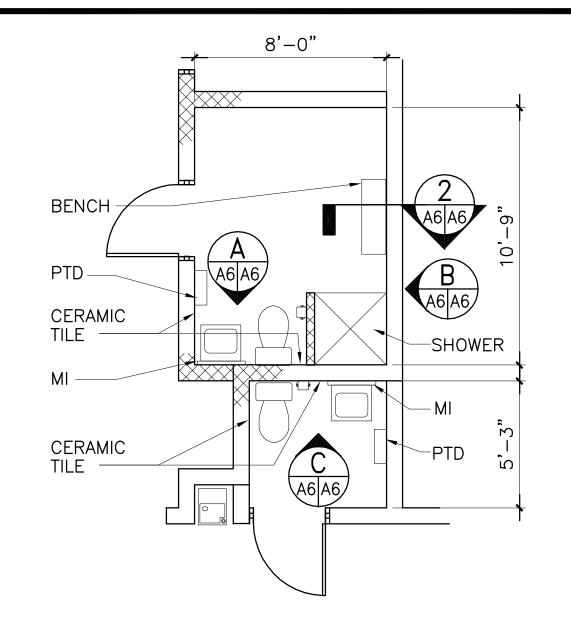








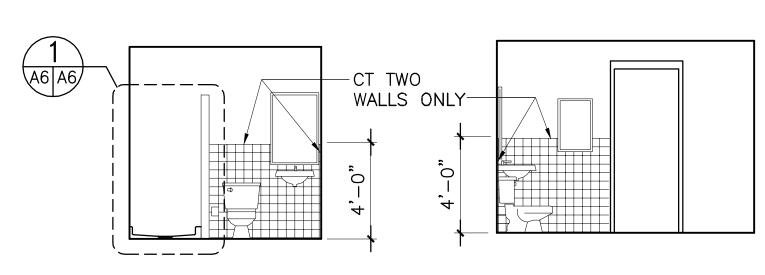




TOILET ACCESSORY LEGEND

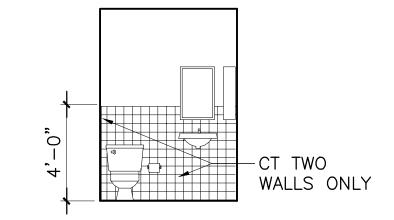
ABBREVIATIONS ON THE PLANS INDICATE THE APPROXIMATE LOCATION OF THE ITEM, ADHERE TO ALL ADA REQUIREMENTS FOR THE INSTALLATION & MOUNTING HEIGHT OF FIXTURES.

- C WATER CLOSET, FLOOR MOUNTED. RIM @ 14" A.F.F.
- D TOILET TISSUE DISPENSER, SURFACE MOUNTED.
 MOUNT TOP OF DISPENSER @ 24" A.F.F.
- PTD PAPER TOWEL DISPENSER, SURFACE MOUNTED.
 TOWEL DISPENSING @ 40" A.F.F.
- MIRROR, WALL MOUNTED, 24" W x 36" H. MOUNT FRAME BOTTOM @ 38" A.F.F.

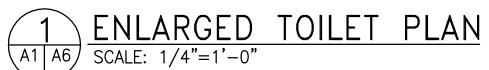


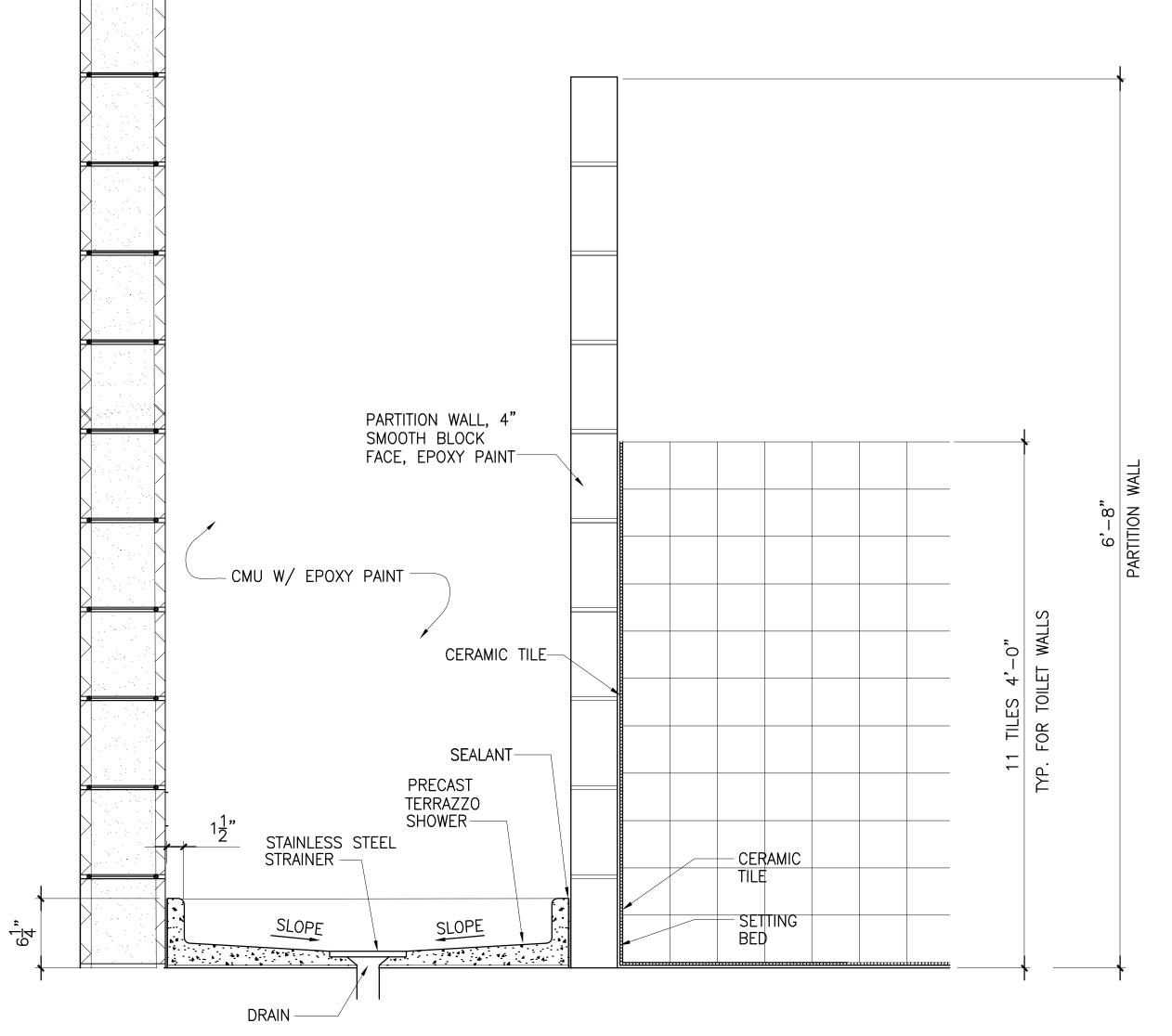


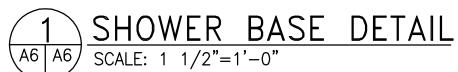


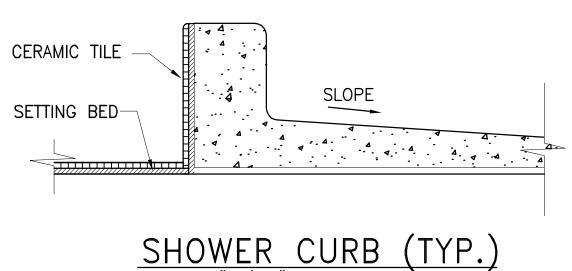




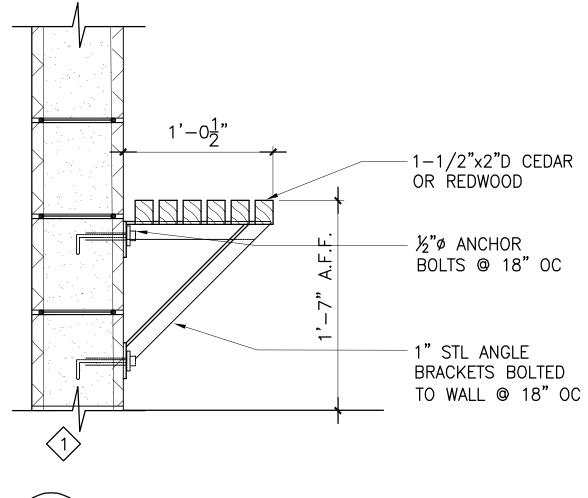






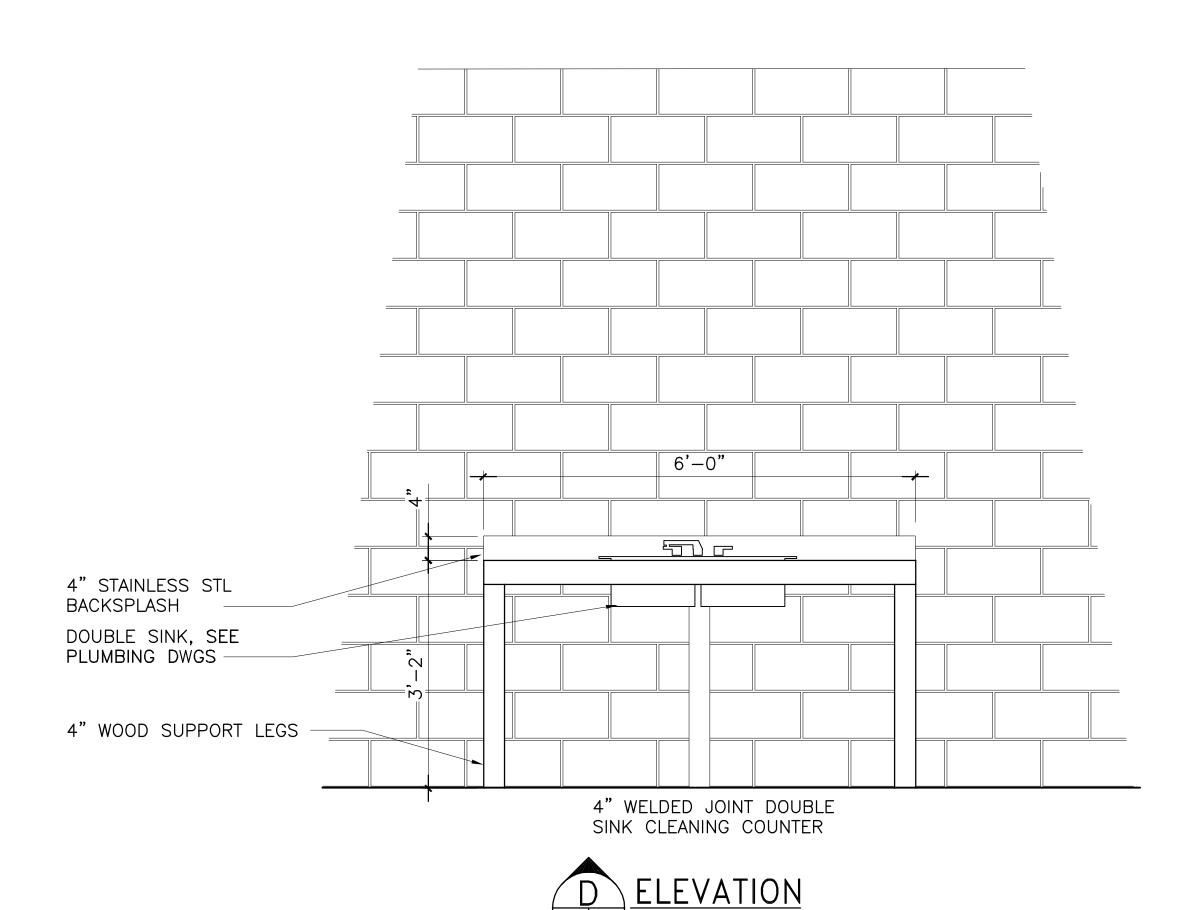


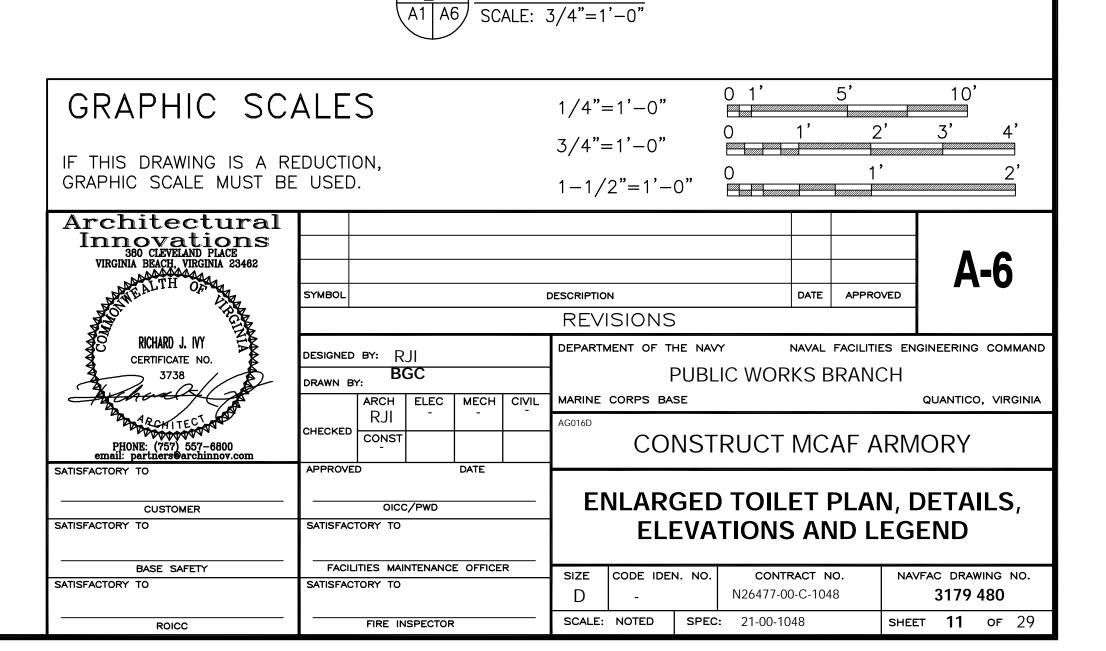
SCALE: 3"=1'-0"

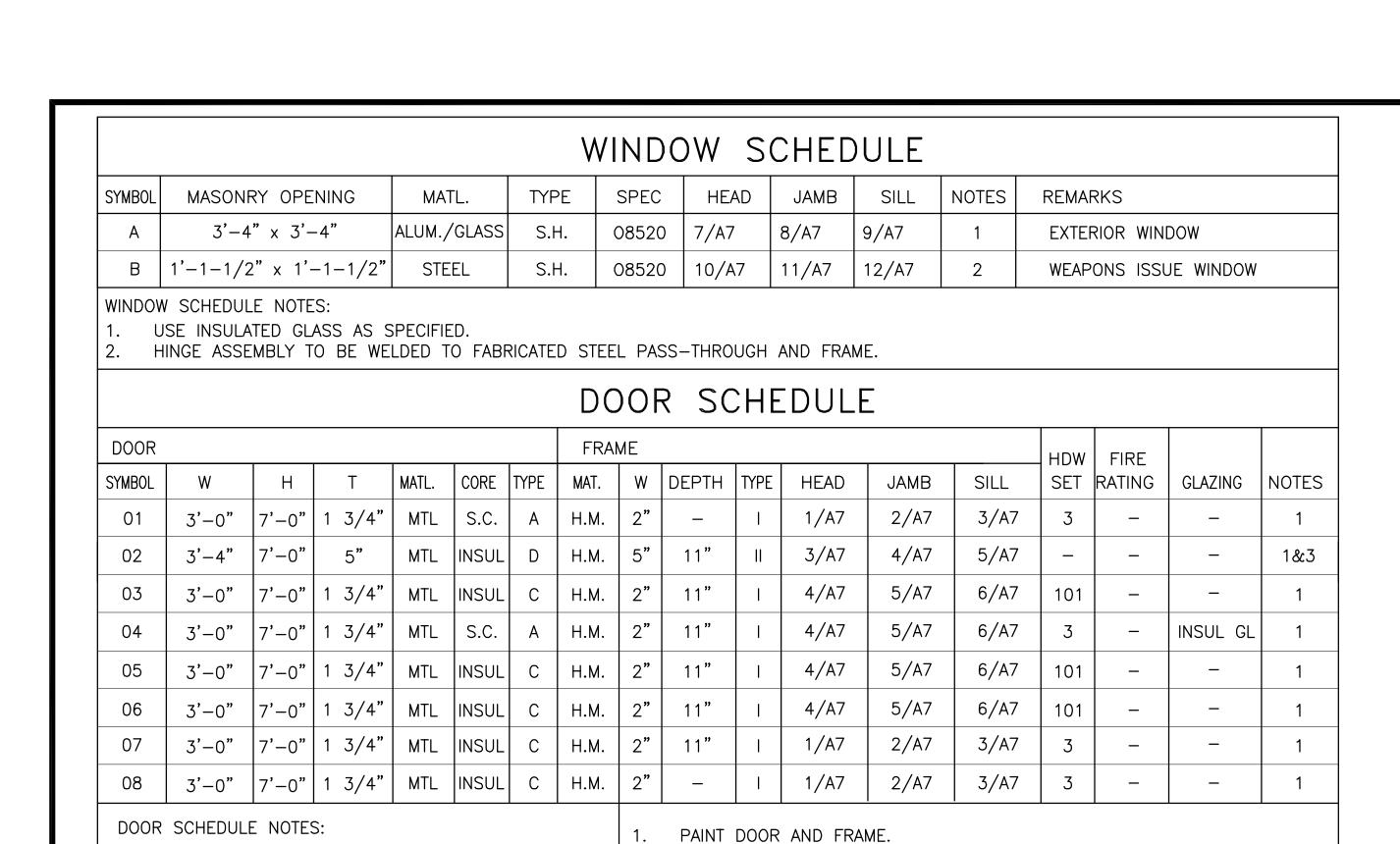


SHOWER BENCH DETAIL

SCALE: 1 1/2"=1'-0"



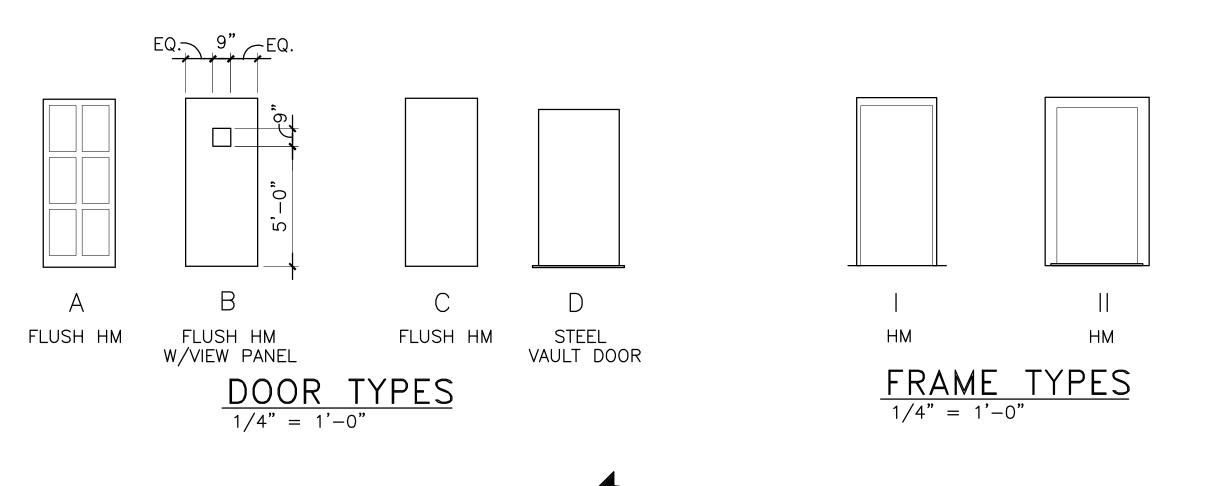




2. PROVIDE VINYL SWEEPS AT BOTTOM OF DOORS.

3. HARDWARE FOR VAULT DOOR WILL BE PER

MANUFACTURER'S SPECIFICATIONS



ALL SURFACES TO BE PAINTED SHALL BE PREPARED

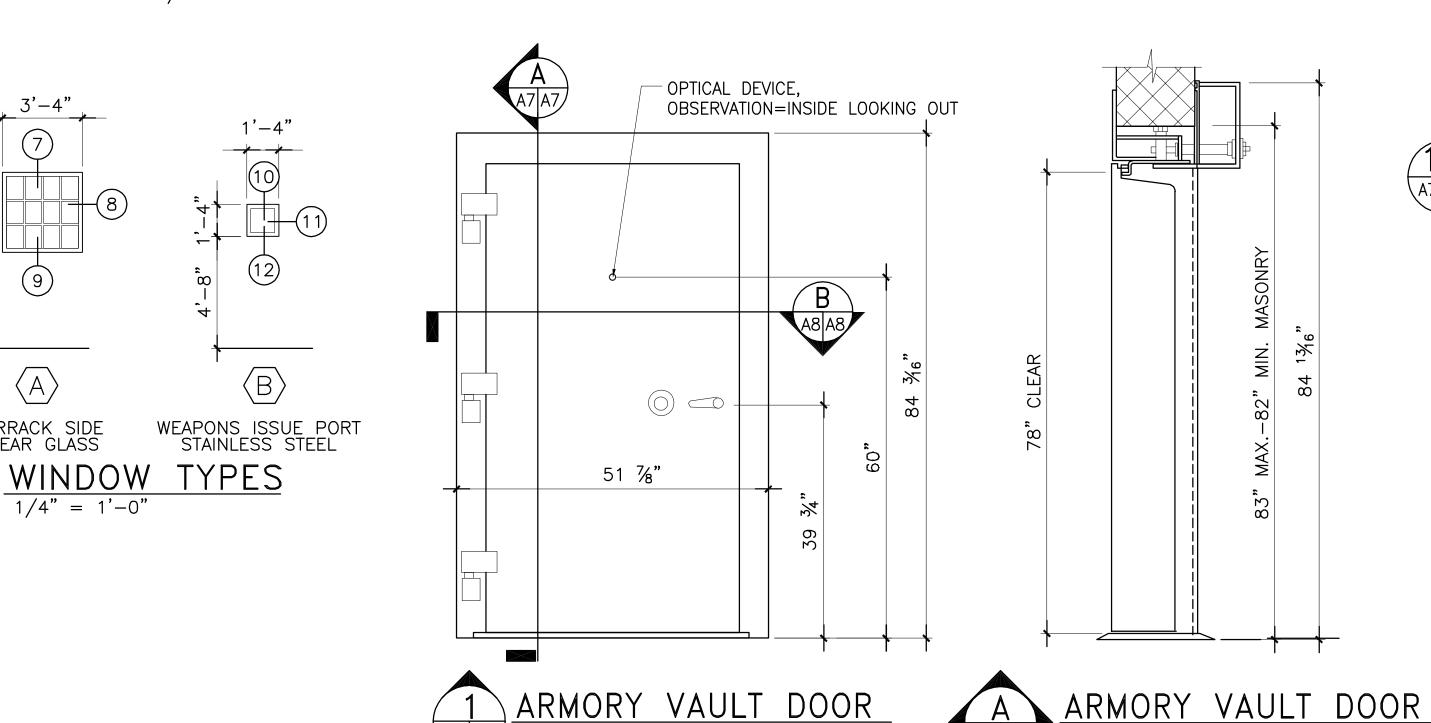
PROVIDE HARDWARE AND GLAZING AS SCHEDULED.

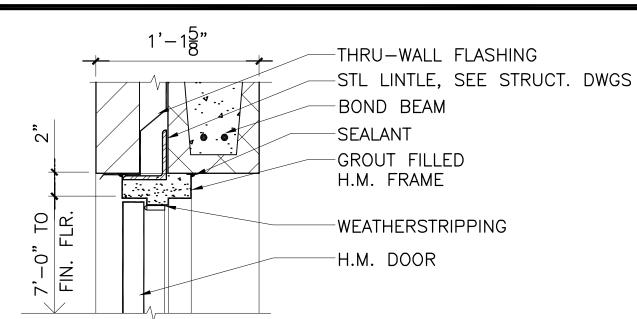
 $\langle A \rangle$

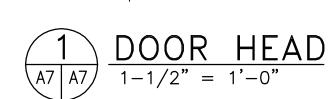
BARRACK SIDE CLEAR GLASS

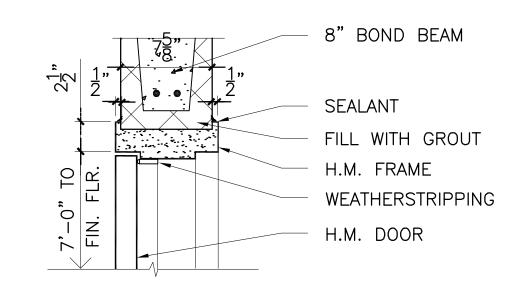
1/4" = 1'-0"

ACCORDING TO THE SPECIFICATIONS BEFORE PAINTING.

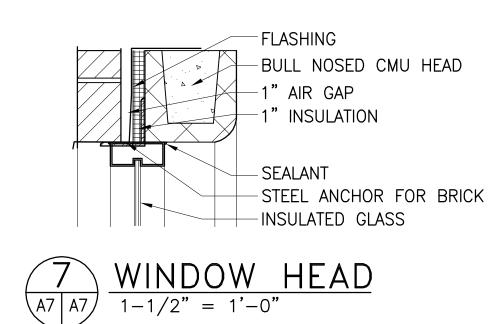


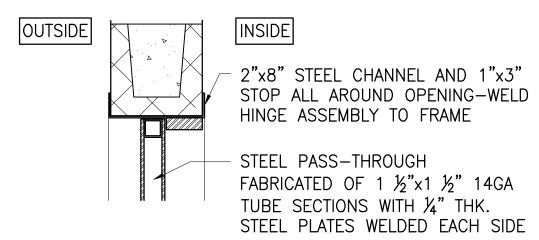


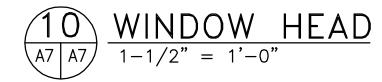


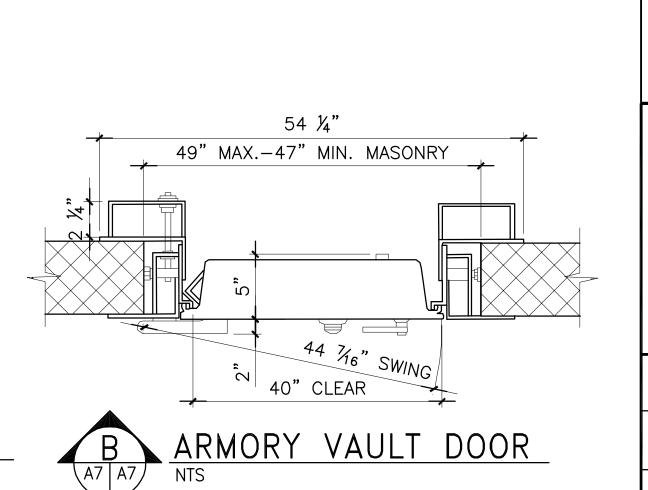


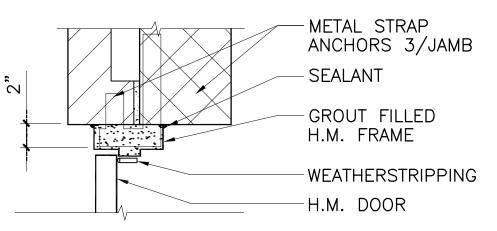


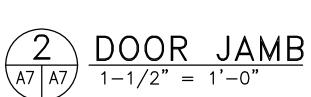


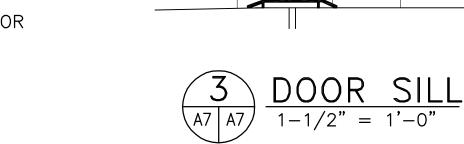


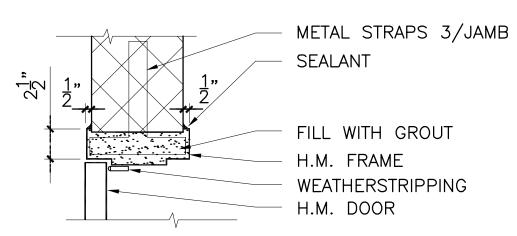


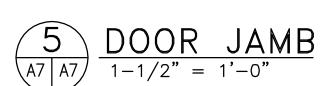


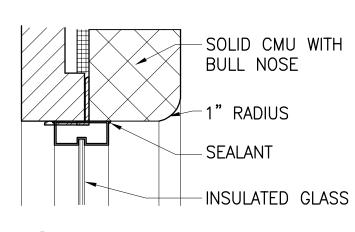


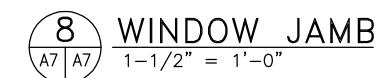


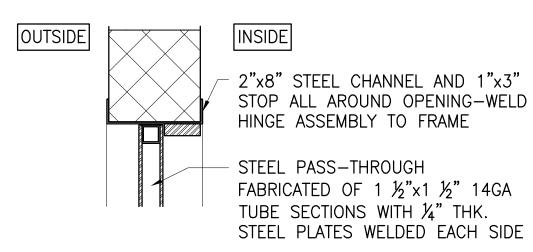


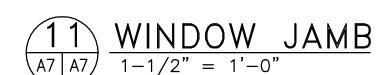


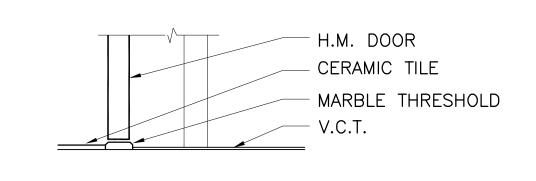










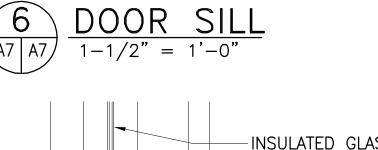


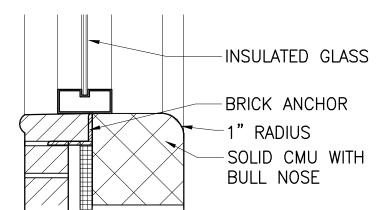
-H.M. DOOR

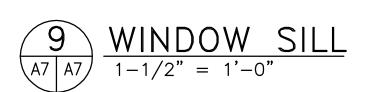
H.M. FRAME

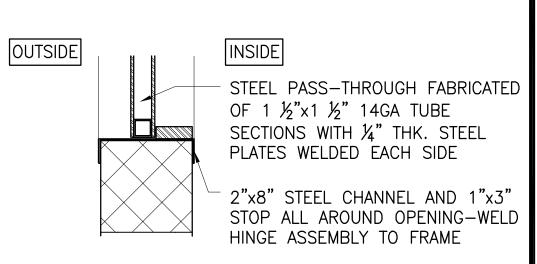
SET IN SEALANT

ALUMINUM THRESHOLD

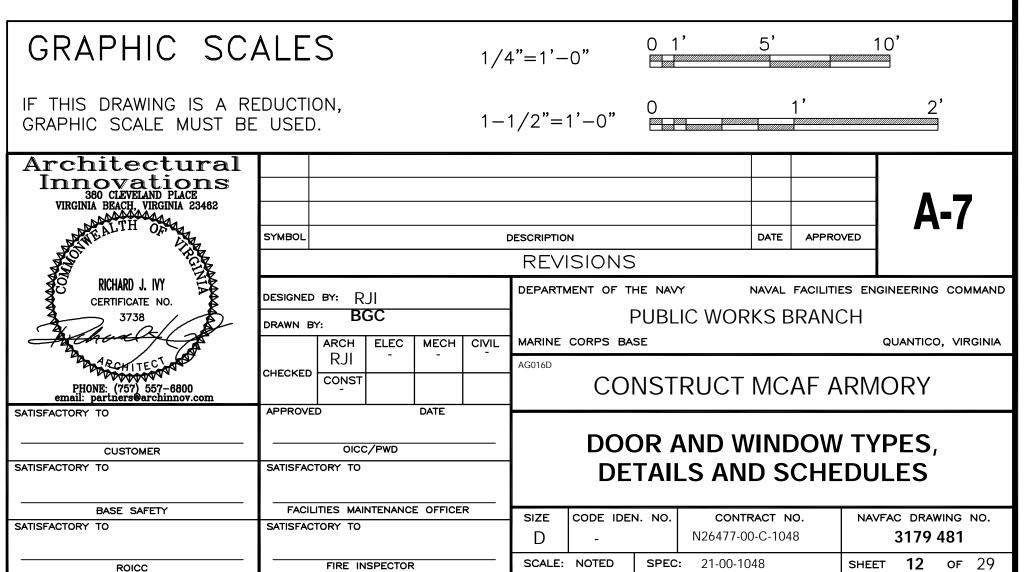


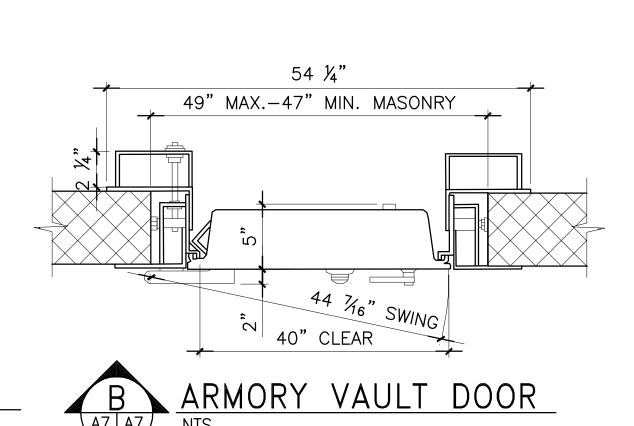












GENERAL NOTES:

- 1. ALL ITEMS SHOWN ON THESE DRAWINGS ARE NEW CONSTRUCTION UNLESS OTHERWISE NOTED AS EXISTING.
- 2. CONTRACTOR SHALL COORDINATE THE REQUIREMENTS OF ARCHITECTURAL MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS ALONG WITH THESE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, ANCHORS, CHASES, INSERTS, HANGERS, ETC. TO BE PLACED IN THE STRUCTURAL WORK.
- 3. THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION AND ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER.
- 4. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
- 5. THE STRUCTURE WAS DESIGNED IN ACCORDANCE WITH MIL-HDBK 1002/1, "STRUCTURAL ENGINEERING GENERAL REQUIREMENTS", MIL-HDBK 1002/2, "LOADS." AND NAVAC P-355 "SEISMIC DESIGN FOR BUILDINGS." THE FOLLOWING LOADS, IN ADDITION TO THE DEAD LOADS OF THE PERMANENT MATERIALS AND CONSTRUCTION, WERE USED:

FOUNDATION NOTES:

- 1. ELEVATION TO TOP OF ALL FOOTINGS SHALL BE AS SHOWN ON THE FOUNDATION PLAN. EXCAVATION DEPTHS ARE A MINIMUM AND SHALL BE LOWERED IF APPROVED BY THE CONTRACTING OFFICER TO OBTAIN THE DESIGN BEARING PRESSURE OF 2500 PSF. ANY UNUSUAL SOIL CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER. A GEOTECHNICAL ENGINEER SHALL VERIFY SOIL CONDITIONS OF EXCAVATIONS PRIOR TO PLACEMENT OF CONCRETE FOOTINGS.
- 2. EARTH FORMED FOUNDATIONS SHALL CONFORM TO THE SHAPE, LINES AND DIMENSIONS AS SHOWN ON THE FOUNDATION PLAN. ALL WATER SHALL BE REMOVED BEFORE DEPOSITING CONCRETE.
- 3. SOFT, AND OTHERWISE UNSATISFACTORY, SOILS BENEATH PROPOSED FOUNDATION ELEMENTS SHALL BE REMOVED AT THE DIRECTION OF THE CONTRACTING OFFICER. CONTRACTOR SHALL BACKFILL WITH SELECT STRUCTURAL FILL MATERIAL COMPACTED TO A DRY DENSITY OF 95% STANDARD PROCTOR IN ACCORDANCE WITH ASTM D698.
- 4. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT STORM WATER FROM ENTERING FOUNDATION EXCAVATIONS. CONCRETE SHALL NOT BE PLACED ON SOFT, SATURATED SOIL.
- 5. TOP OF ALL COLUMN AND WALL FOOTINGS SHALL BE AT ELEVATION AS INDICATED ON PLAN. FOOTINGS SHALL BE CENTERED ON WALLS UNLESS OTHERWISE NOTED IN SECTIONS.
- 6. STEP FOOTINGS FOR PIPE TO RUNS ABOVE TOP OF FOOTING. SEE PLUMBING AND CIVIL DRAWINGS FOR PIPE LOCATIONS.

CONCRETE NOTES:

- 1. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 301 "STRUCTURAL CONCRETE FOR BUILDINGS" AND 318/318R "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- 2. CONCRETE PROTECTION FOR REINFORCING STEEL AND OTHER GENERAL REQUIREMENTS OF FABRICATION AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI 318-95
- 3. ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60. ALL WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH ASTM A185. FLAT SHEETS ONLY.
- 4. ALL CAST-IN-PLACE CONCRETE SHALL ATTAIN AN ULTIMATE COMPRESSIVE STRENGH OF 3500 PSI AT AN AGE OF 28 DAYS.
- 5. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF CONCRETE MIX DESIGN AND TEST REPORTS. THE MIX DESIGN SHALL INCLUDE ALL PROPERTIES OF THE MIX, MATERIALS USED IN THE CONCRETE AND ACTUAL CONCRETE STRENGTH SHOP DRAWINGS FOR CONCRETE REINFORCEMENT SHALL ALSO BE PROVIDED, INCLUDING REINFORCING AND WELDED WIRE FABRIC.
- 6. MINIMUM CONCRETE COVER FOR PROTECTION OF REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

- 7. ALL CAST-IN-PLACE CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED 5 TO 7 PERCENT.
- 8. ALL REINFORCING STEEL SHALL BE LAPPED 42 BAR DIAMETERS AT SPLICES, UNLESS OTHERWISE NOTED.

MASONRY NOTES:

- 1. ALL MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 530-95, "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" AND ACI 530.1-95, "SPECIFICATIONS FOR MASONRY STRUCTURES."
- 2. ALL CONCRETE MASONRY UNITS SHALL BE IN ACCORDANCE WITH ASTM C-90 "SPECIFICATIONS FOR HOLLOW LOAD-BEARING CONCRETE UNITS" AND SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF f'm=1500 PSI.
- 3. MORTAR FOR USE IN ALL ENGINEERED MASONRY BEARING WALLS SHALL BE IN ACCORDANCE WITH ASTM C270 TYPE "S" MORTAR. ALL MASONRY GROUT SHALL BE IN ACCORDANCE WITH ASTM C476 AND SHALL OBTAIN A 28 DAY STRENGTH OF 3000 PSI.
- 4. PROVIDE DOWELS OUT OF FOOTING AT ALL EXTERIOR MASONRY WALLS, PROVIDE STANDARD HOOK ON END OF BAR INTO FOOTING, LAP 48 BAR DIAMETERS WITH VERTICAL MASONRY REINFORCING, NUMBER, SIZE AND SPACING OF DOWELS SHALL MATCH WALL REINFORCING. DOWELS SHALL DOWELS SHALL BE WIRE TIED AND NOT PUSHED INTO WET CONCRETE.
- 5. DIMENSIONS SHOWN FOR CMU WALLS ARE NOMINAL BLOCK. HOLD DIMENSIONS TO OUTSIDE FACE OF CMU UNLESS OTHERWISE NOTED.
- 6. ALL REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, UNLESS OTHERWISE NOTED.
- 7. THE MASONRY CONTRACTOR SHALL BUILD, REINFORCE, AND GROUT THE WALLS IN NO GREATER THAN 4'-0" LIFTS, VIBRATING GROUT IMMEDIATELY AFTER EACH LIFT.
- 8. UNLESS OTHERWISE NOTED OR DETAILED, CENTER REINFORCING IN BLOCK CELLS.
- 9. PROVIDE GALVANIZED HORIZONTAL LADDER (EXTERIOR CONDITION)/TRUSS (INTERIOR CONDITION) TYPE JOINT REINFORCING WITH NO. 9 GAGE CROSS RODS AT 16" O/C ON ALL WALLS.
- 10. VERTICAL REINFORCEMENT SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 192 DIAMETERS OF THE REINFORCEMENT.

STRUCTURAL STEEL NOTES:

- 1. ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE IN ACCORDANCE WITH ASTM A36 SPECIFICATIONS UNLESS OTHERWISE NOTED.
- 2. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
- 3. ALL FIELD BOLTED SHEAR CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS (THREADS INCLUDED IN THE SHEAR PLANE) WITH 3/4 INCH DIAMETER ASTM A325 HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED. ALL SHEAR CONNECTIONS SHALL BE DESIGNED TO SUPPORT HALF OF THE TOTAL UNIFORM LOAD CAPACITY SHOWN ON TABLES "UNIFORM LOADS IN KIPS FOR BEAMS LATERALLY SUPPORTED" OF THE GIVEN SPAN AND STEEL SPECIFIED, UNLESS THE END REACTION IS NOTED ON DRAWINGS. SINGLE PLATE SHEAR CONNECTIONS SHALL BE IN ACCORDANCE WITH TABLE X OF THE MANUAL OF STEEL CONSTRUCTION.
- 4. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1-94 "STRUCTURAL WELDING CODE STEEL."
- 5. ALL STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A-123.
- 6. ALL CONNECTIONS SHALL BE DESIGNED FOR HALF OF THE TOTAL UNIFORM LOAD CAPACITY OF THE BEAM, AS INDICATED IN THE UNIFORM LOAD CAPACITY TABLE OF THE NINTH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION.

WOOD FRAMING NOTES

- 1. ALL STRUCTURAL LUMBER SHALL BE IN ACCORDANCE WITH S.P.I.B. SPECIFICATIONS AND SHALL BE NO. 2 SOUTHERN PINE, KD AND USED AT 15% MAXIMUM MOISTURE CONTENT OR EQUAL.
- 2. NAILING OF ALL STRUCTURAL LUMBER SHALL CONFORM TO THE "RECOMMENDED FASTENING SCHEDULE", TABLE 2305.2 OF THE 1996 BOCA NATIONAL BUILDING CODE.
- 3. THE DESIGN, FABRICATION AND ERECTION OF ALL TIMBER CONSTRUCTION SHALL BE IN ACCORDANCE WITH MIL—HDBK 1002/5 "TIMBER STRUCTURES" AND THE 1997 EDITION OF THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION."
- 4. ALL WOOD FRAMING MEMBERS PERMANENTLY EXPOSED TO THE WEATHER OR IN CONTACT WITH MASONRY AROUND THE BUILDING PERIMETER SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE SPECIFICATIONS. ALL BOLTS OR NAILS EXPOSED TO THE WEATHER OR IN CONTACT WITH MASONRY SHALL BE STAINLESS STEEL OR GALVANIZED IN ACCORDANCE WITH ASTM A-123.
- 5. PLYWOOD FOR ROOF SHEATHING SHALL BE 5/8" APA RATED PLYWOOD, SHEETS STAGGERED, FACE GRAIN PERPENDICULAR TO TRUSSES OR RAFTERS; AND NAILED WITH 8d NAILS AT 6" ON CENTER ON THE THE PERIMETER AND AND 12" ON CENTER INTERIOR.
- 6. PROVIDE SOLID BRIDGING FOR ALL TRUSSES. THE DEPTH OF THE BRIDGING MEMBERS SHALL EQUAL THE DEPTH OF THE TOP CHORD MAXIMUM SPACING SHALL BE 8'-0", UNLESS OTHERWISE NOTED.

WOOD TRUSS NOTES:

- 1. TRUSS MANUFACTURER MAY VARY TRUSS TYPE, MEMBER SIZE AND LUMBER GRADE AS REQUIRED TO OBTAIN SPAN AND ROOF PITCH AS
- 2. TRUSS MANUFACTURER SHALL NOT COUNT NUMBER OF TRUSSES SHOWN ON FRAMING PLANS TO DETERMINE NUMBER OF EACH TYPE OF TRUSS; BUT SHALL USE DIMENSIONS SHOWN ON PLANS.
- 3. TIMBER TRUSSES SHALL BE PREFABRICATED BY A WOOD TRUSS MANUFACTURER AND SHALL BE FABRICATED USING LIGHT GAGE METAL PLATE CONNECTIONS AND CONSTRUCTED OF THE FOLLOWING MATERIALS:
 - A. ALL MEMBERS SHALL BE SOUTHERN PINE #2 KILN DRIED TO 15% M.C. (MINIMUM GRADE).
 - B. CONNECTOR PLATES SHALL BE GALVANIZED SHEET STEEL CONFORMING TO GRADE A, ASTM A446 WITH EXTENDED TEETH OR PLUGS WHICH ARE EMBEDDED INTO WOOD FOR THE TRANSMITTING LOAD.
- 4. PROVIDE 2 X 4 CONTINUOUS BRACING PERPENDICULAR TO TRUSSES AT MID LENGTH OF ALL COMPRESSION WEB MEMBERS AS REQUIRED BY TRUSS FABRICATORS SHOP DRAWINGS.
- 5. PROVIDE DIAGONAL BRACES IN EACH PLANE OF TRUSS WEB MEMBERS AT 16'-0" ON CENTER MAXIMUM. ROOF SHEATHING PROVIDES PERMANENT BRACING FOR TOP CHORD MEMBERS.
- 6. DESIGN LIVE LOADS FOR WOOD ROOF TRUSSES ARE AS FOLLOWS:

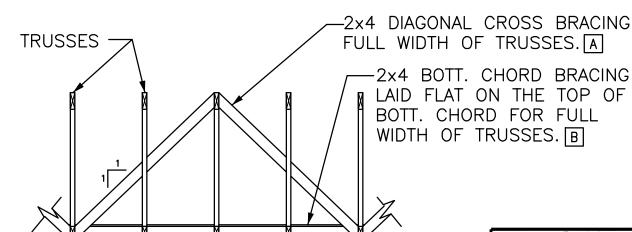
	MINIMOM	<u> IVIA</u>	<u>XIMU</u>
TOP CHORD DEAD LOAD	10 PSF	15	PSF
TOP CHORD LIVE LOAD	0 PSF	15	PSF
BOTTOM CHORD DEAD LOAD	5 PSF	10	PSF
BOTTOM CHORD LIVE LOAD	. 0	0	
MECHANICAL EQUIPMENT	SEE MECH.	DWGS.	
WIND SPEED	92 MPH		
NET UPLIFT	15 PSF		

- 7. PROVIDE SHOP DRAWINGS FOR APPROVAL FOR ALL WOOD ROOF TRUSSES INCLUDING SIZES, LOCATIONS AND ALLOWABLE LOADS AS WELL AS CONNECTIONS BETWEEN TRUSSES. TRUSS CONNECTOR PLATES SHALL BE DESIGNED FOR AXIAL LOADS, ECCENTRICITY, AND NET SECTION OF METAL. SHOP DRAWINGS SHALL BE SIGNED AND STAMPED BY STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE COMMONWEALTH OF VIRGINIA. SUBMIT CALCULATIONS WITH SHOP DRAWINGS. CALCULATIONS ARE SUBMITTED FOR RECORD PURPOSES ONLY. OBTAIN ACKNOWLEDGEMENT OF RECEIPT OF APPROVED CALCULATIONS PRIOR TO FABRICATING TRUSSES.
- 8. FOR TRUSS TYPE DIAGRAMS, SEE DETAILS SHEET S-5.
- 9. PROVIDE PERMANENT 2X4 BOTTOM TRUSS CHORD BRACING EQUALLY SPACED, SEE PLAN FOR LOCATIONS.
- 10. ALL TRUSS CLIPS SHALL BE DESIGNED TO RESIST UPLIFT LOADS PROVIDED BY PRE-ENGINEERED TRUSS MANUFACTURER. ALL ROOF HAND FRAMING SHALL HAVE CLIPS SUFFICIENT TO RESIST A NET UPLIFT OF 15 PSF.

PERMANENT TRUSS BRACING NOTES:

PROVIDE THE FOLLOWING PERMANENT TRUSS BRACING FASTENED TO ALL TRUSSES WITH TWO 10d NAILS.

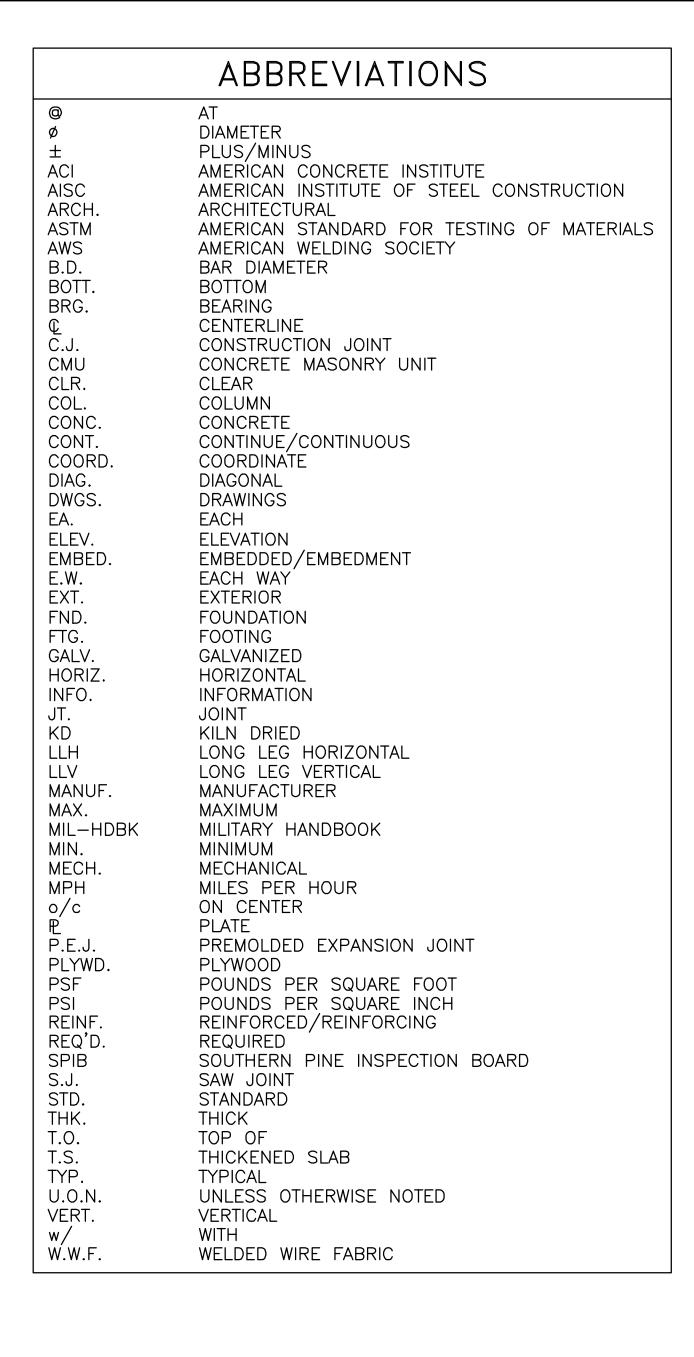
- A 2 X 4 LATERAL CROSS BRACING AS INDICATED ON PLAN.
- B PERMANENT LOWER CHORD BRACING AT SPACING REQUIRED BY THE TRUSS PLATE INSTITUTE CONSISTING OF 2X4'S LAID FLAT ON THE TOP OF THE BOTTOM CHORD OF TRUSSES.

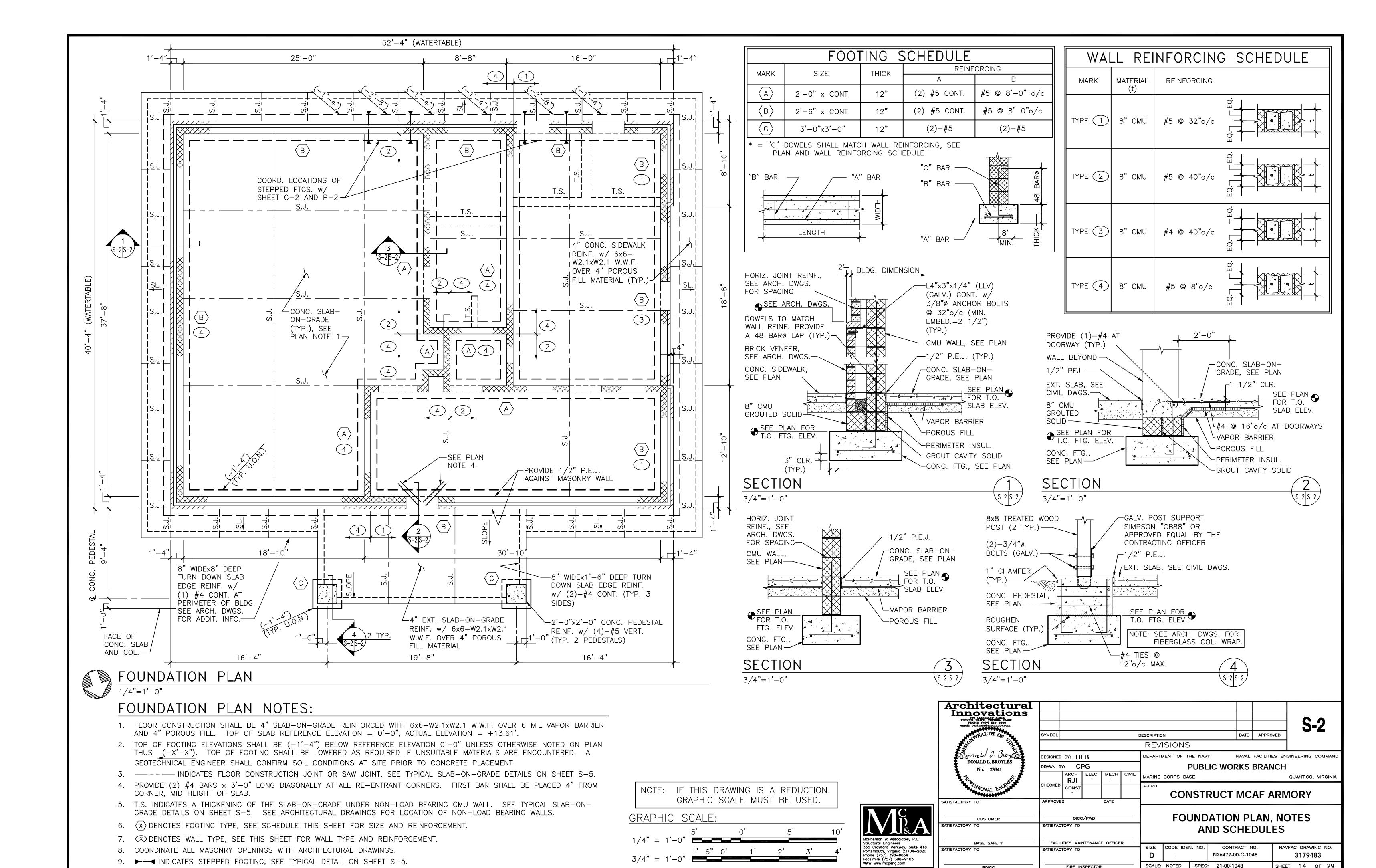


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CROSS BRACING DIAGRAM
FOR WOOD ROOF TRUSSES

Architectural Innovations 380 CLEVELAND PLACE VIRGINIA BEACH, VIRGINIA 23462 PHONE: (757) 557-6800 email: partnersperchinnov.com DATE APPROVED REVISIONS male 2. Broyer DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND DESIGNED BY: DLB DONALD L. BROYLÉS DRAWN BY: CPG PUBLIC WORKS BRANCH No. 23341 ARCH ELEC MECH CIVIL MARINE CORPS BASE QUANTICO, VIRGINIA RJI CONSTRUCT MCAF ARMORY SATISFACTORY TO **NOTES** OICC/PWD CUSTOMER ATISFACTORY TO FACILITIES MAINTENANCE OFFICER BASE SAFETY SIZE CODE IDEN. NO. CONTRACT NO. NAVFAC DRAWING NO. SATISFACTORY TO N26477-00-C-1048 3179482 SCALE: NOTED SPEC: 21-00-1048 SHEET 13 OF 29 ROICC



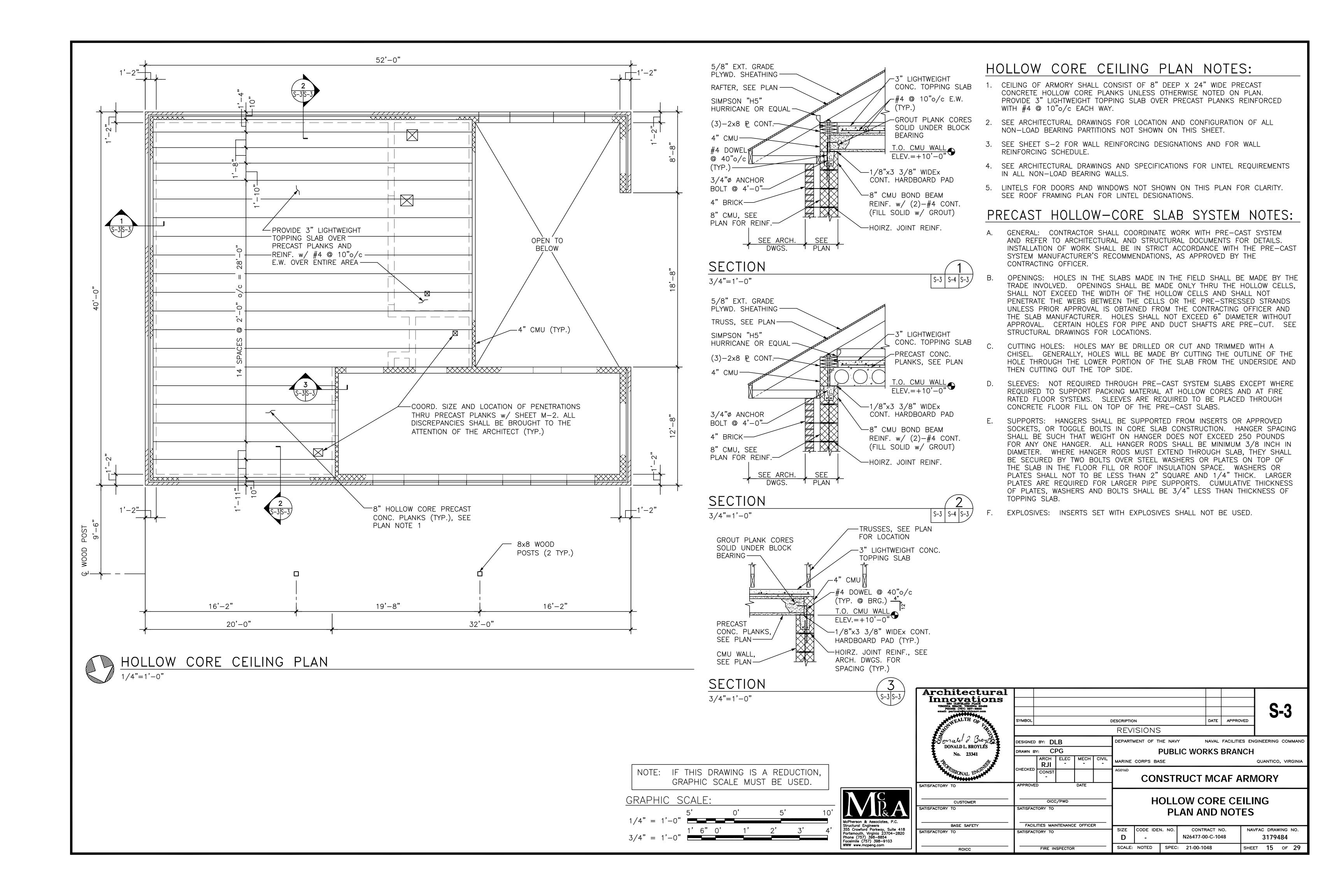


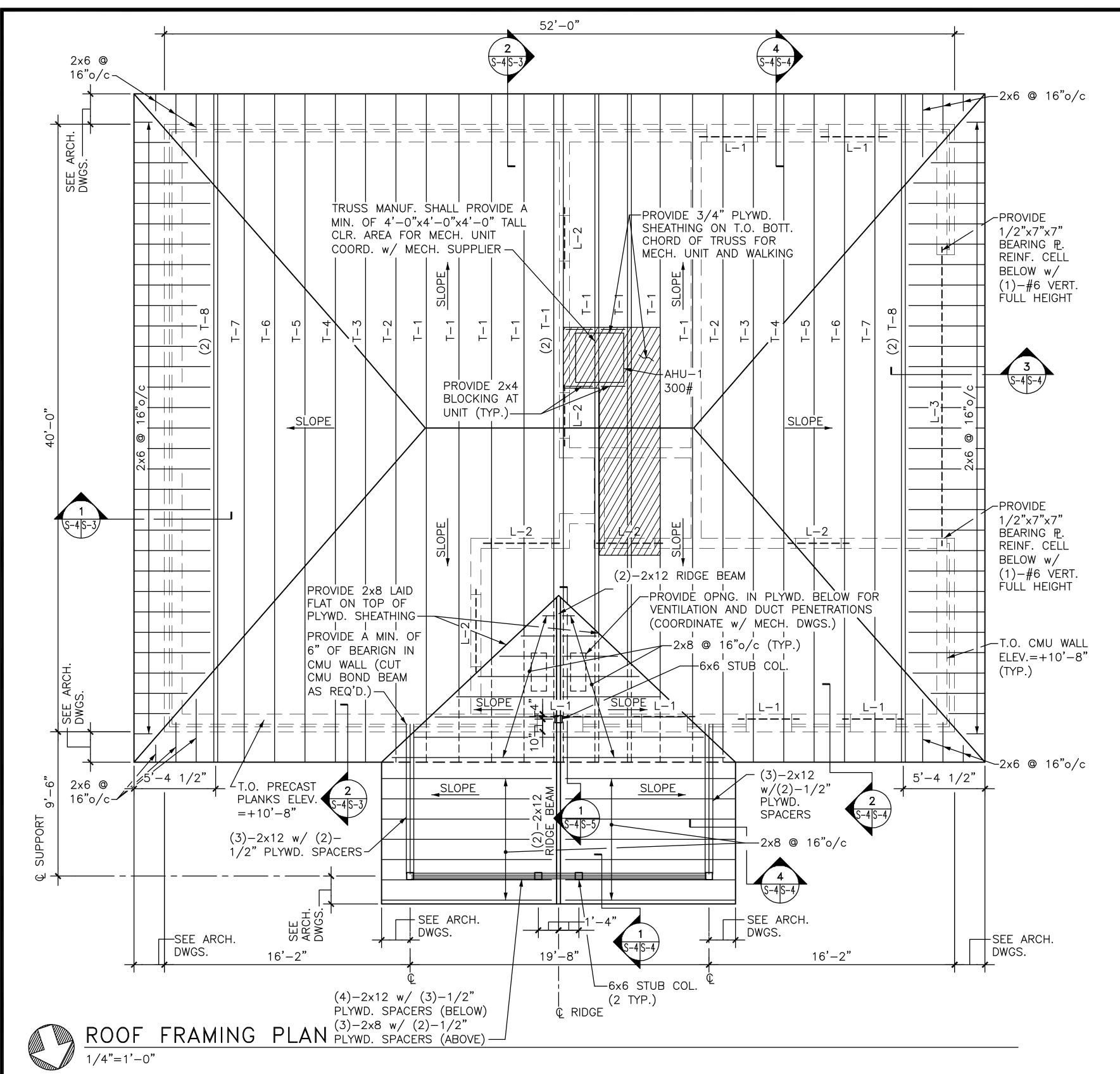
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SHEET 14 OF 29

FIRE INSPECTOR

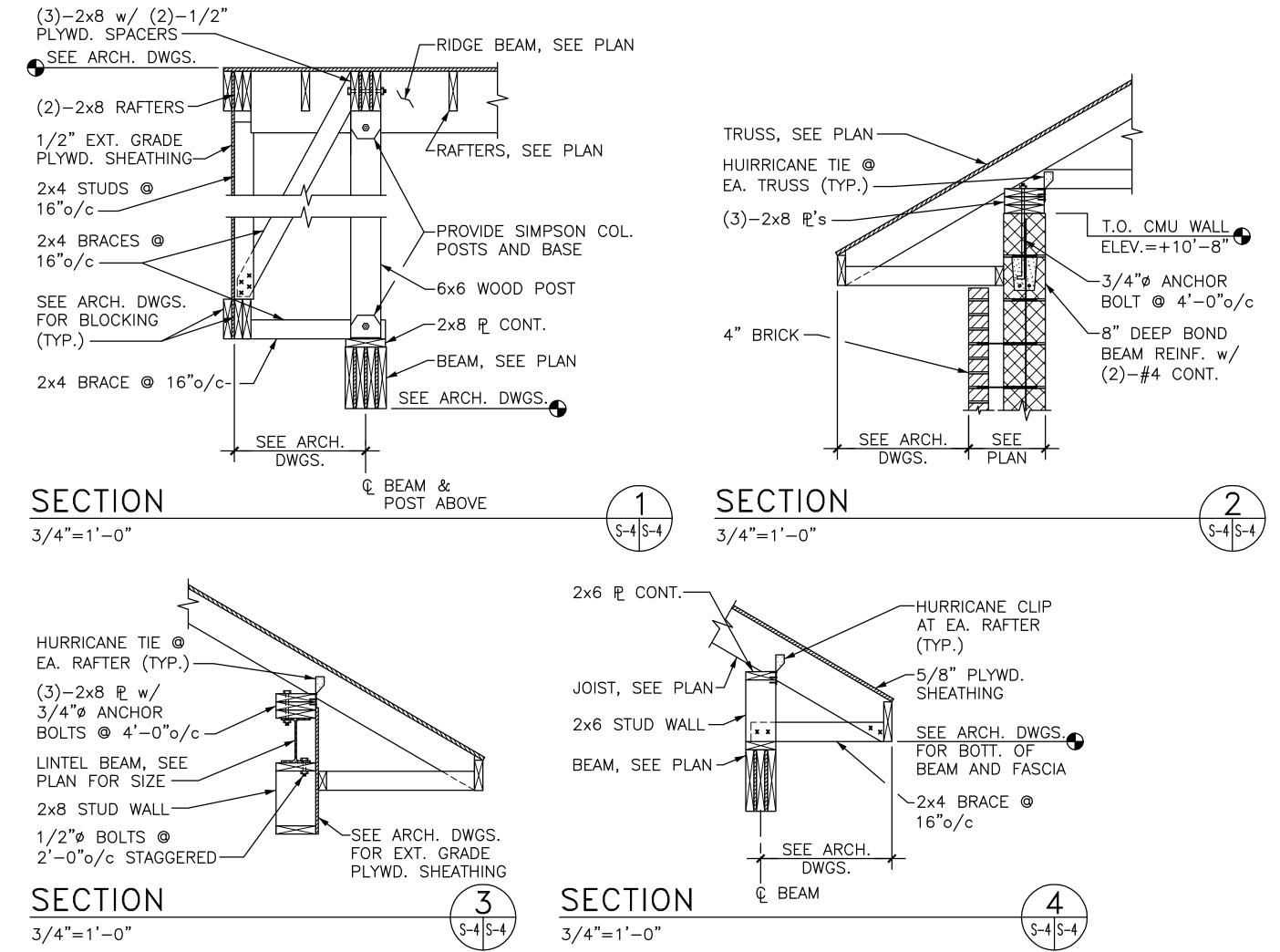
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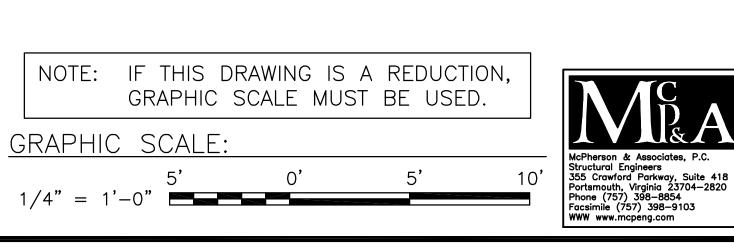
	LINTEL SCHEDULE											
MARK	TYPE	DESCRIPTION	REMARKS									
L-1		7 5/8"x7 5/8" BOND BEAM LINTEL w/(2)-#5 CONT. & L5"x3 1/2"x5/16" (LLV LOOSE)(GALV.)	PROVIDE 8" MIN. BEARING EA. END									
L-2		7 5/8"x7 5/8" BOND BEAM LINTEL w/(2)-#5 CONT.	PROVIDE 8" MIN. BEARING EA. END									
L-3		W8x18 STEEL BEAM	PROVIDE 8" MIN. BEARING EA. END									

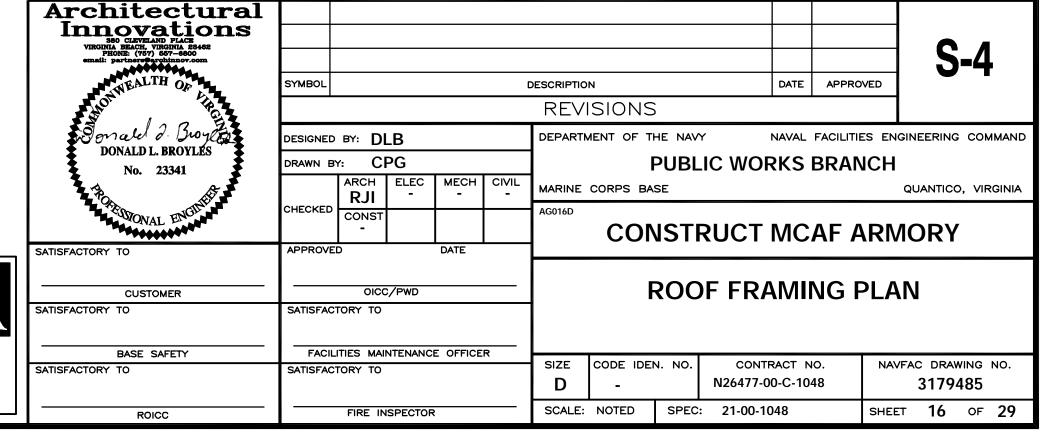
NOTE: SEE PLAN FOR LOCATIONS.

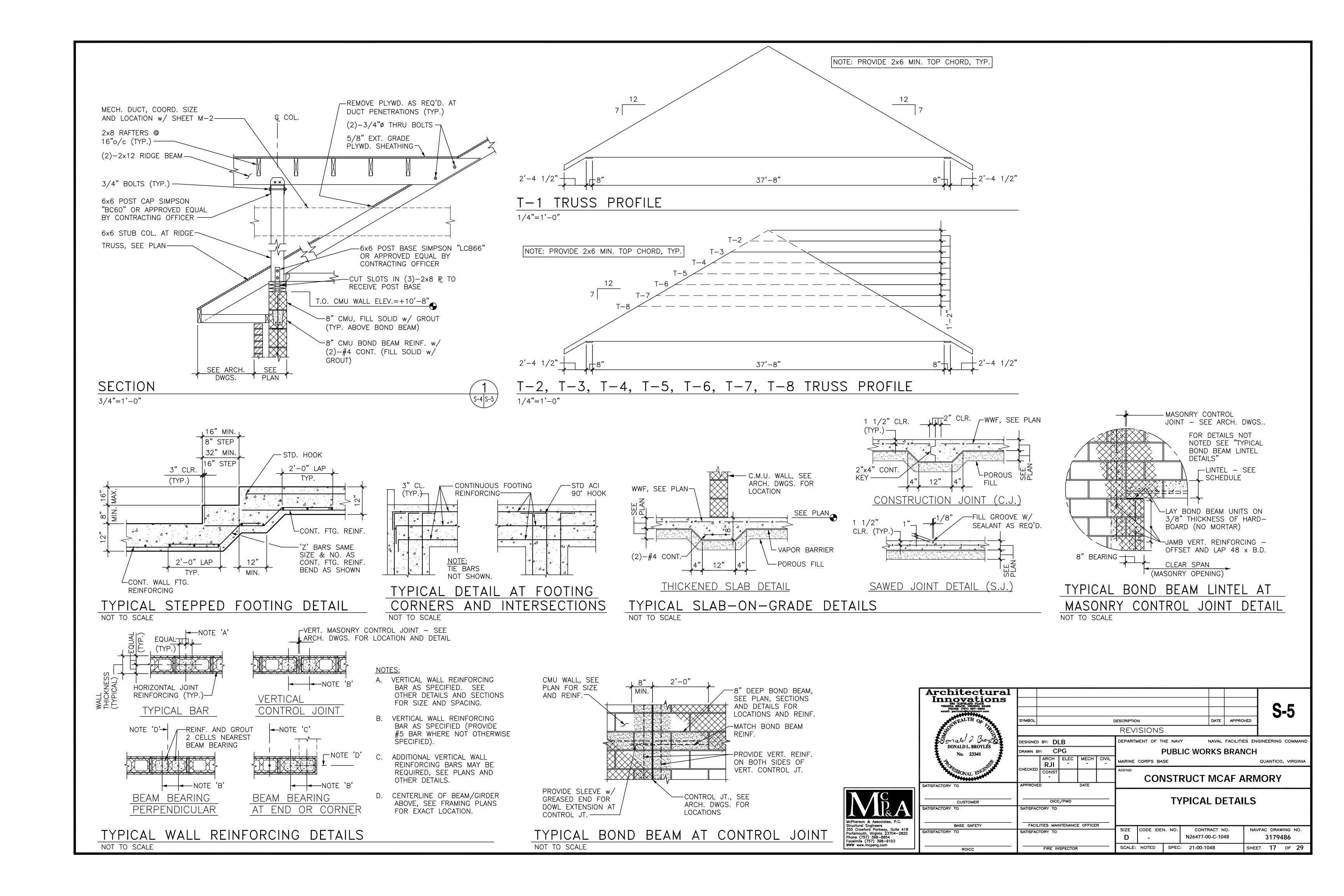


ROOF FRAMING PLAN NOTES:

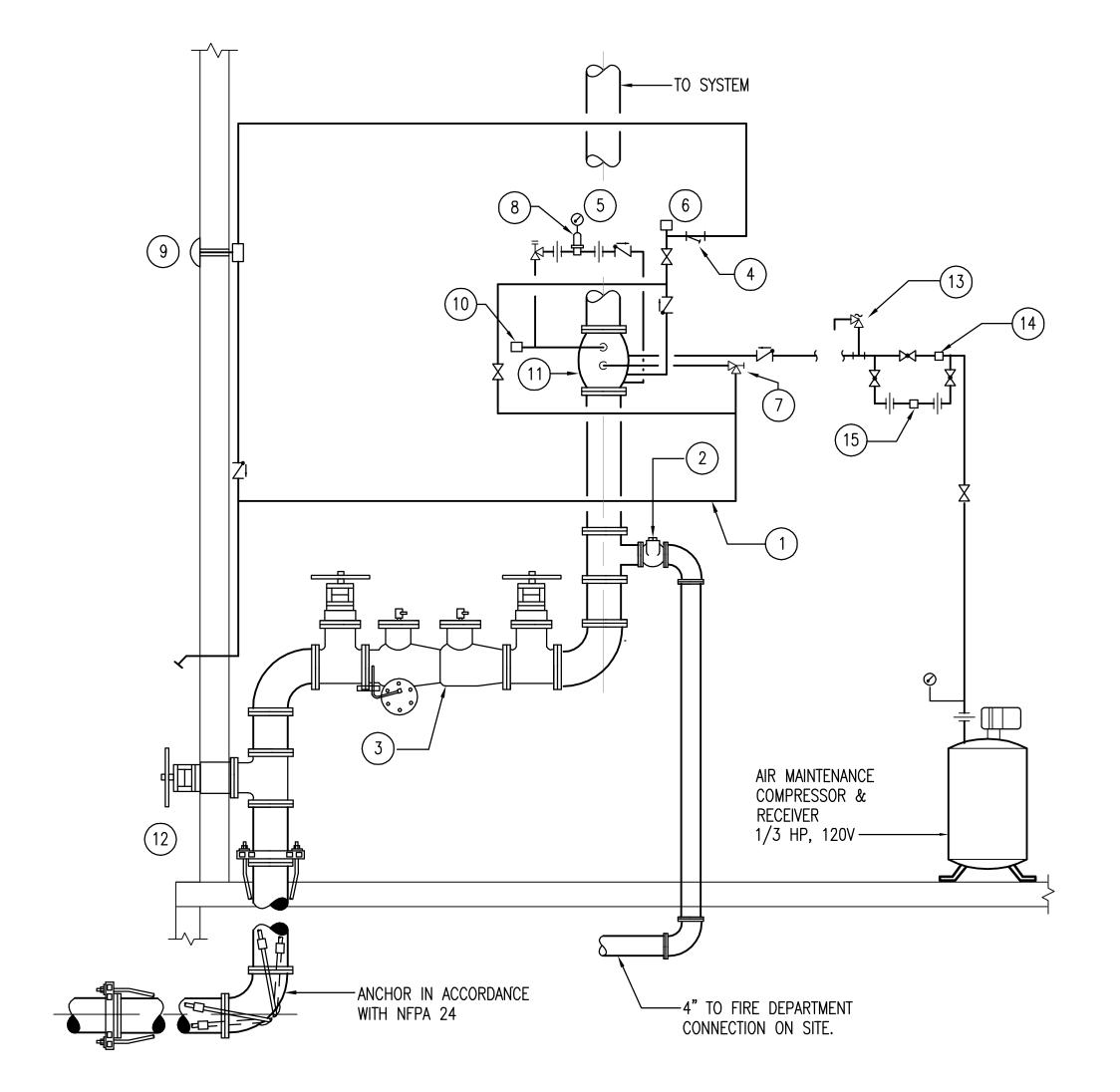
- 1. THIS PLAN SHOWS BEARING WALLS ONLY. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF ALL WALLS NOT SHOWN ON THIS SHEET.
- 2. TOP OF PRECAST PLANK AND TOP OF CMU BEARING WALL ELEVATION SHALL BE AT ELEVATION (+10'-8) ABOVE REFERENCE ELEVATION (0'-0") UNLESS OTHERWISE NOTED THUS (+X'-X") ON PLAN.
- 3. ALL WOOD ROOF TRUSSES SHALL BE SPACED AT 2'-0"o/c MAXIMUM.
- 4. TRUSS FABRICATOR SHALL COORDINATE DUCT LOCATIONS AND PENETRATIONS THROUGH TRUSSES AND ROOF DECK WITH MECHANICAL AND ARCHITECTURAL DRAWINGS.
- 5. ENTIRE ROOF SHALL BE COVERED w/5/8" EXTERIOR GRADE PLYWOOD ROOF SHEATHING, SEE SPECIFICATIONS.
- 6. TRUSS MANUFACTURER SHALL COORDINATE WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS FOR ALL ITEMS THAT REQUIRE ADJUSTMENTS IN THE TRUSS SPACING AND SUPPORT OF EQUIPMENT.
- 7. T-X DENOTES TRUSS TYPE, SEE SHEET S-5 FOR TRUSS PROFILES.







	FIXTURE CONNECTION SCHEDULE											
MK.	FIXTURE	H.W.	C.W.	W.P.	REMARKS							
P-1	WATER CLOSET	_	1"	3"	FLUSH VALVE, FLOOR MOUNTED							
P-2	LAVATORY	1/2"	1/2"	1 1/2"	WALL MOUNTED							
P-3	SHOWER FITTINGS	1/2"	1/2"	2"	PRESSURE BALANCED MIXING VALVE							
P-4	COUNTERTOP SINK	1/2"	1/2"	1 1/2"	TWO-COMPARTMENT, STAINLESS STEEL WITH EYE WASH							
P-5	ELECTRIC WATER COOLER, HANDICAPPED ACCESSIBLE	_	1/2"	1 1/2"	WALL MOUNTED							



DRY PIPE SPRINKLER RISER DETAIL

NO SCALE

- MAIN DRAIN LINE
- 2 CHECK VALVE
- 3 DOUBLE CHECK VALVE ASSEMBLY WITH OS&Y VALVES AND TAMPER SWITCHES
- (4) ALARM LINE STRAINER
- (5) PRESSURE GAUGE
- (6) PRESSURE SWITCH
- (7) MAIN DRAIN VALVE
- 8 ACCELERATOR
- 9 WATER MOTOR ALARM (10) LOW AIR PRESSURE SWITCH ALARM
- DRY PIPE VALVE
- WALL POST INDICATOR VALVE WITH TAMPER SWITCH
- (13) PRESSURE RELIEF VALVE
- (14) RESTRICTED ORIFICE
- (15) PRESSURE MAINTENANCE DEVICE

GENERAL NOTES

- 1. ALL PLUMBING AND PLUMBING MATERIALS SHALL MEET THE REQUIREMENTS OF THE INTERNATIONAL PLUMBING CODE
- 2. SLOPES AND INVERT ELEVATIONS SHALL BE ESTABLISHED BEFORE ANY PIPING IS INSTALLED IN ORDER THAT PROPER SLOPES WILL BE MAINTAINED. ALL PIPING SHALL BE RUN TO AVOID CONFLICTS WITH OTHER TRADES.
- 3. ALL HOSE BIBBS SHALL BE MOUNTED 24" ABOVE FINISHED FLOOR UNLESS OTHERWISE SPECIFIED.
- 4. ALL WALL HYDRANTS SHALL BE MOUNTED 24" ABOVE FINISHED GRADE UNLESS OTHERWISE SPECIFIED.
- 5. SEE SITE PLAN FOR THE EXTENT OF ALL PIPING LEAVING AND ENTERING THE BUILDING.
- 6. MAKE PROPER PIPING CONNECTIONS TO ALL FIXTURES AND EQUIPMENT EVEN THOUGH ALL BRANCH MAINS, ELBOWS AND CONNECTIONS ARE NOT SHOWN.
- 7. COORDINATE WITH ARCHITECTURAL DRAWINGS BEFORE ROUGHING IN PLUMBING FIXTURES.
- 8. COORDINATE THE LOCATION OF ALL PIPING WITH LIGHTING FIXTURES, DUCTS, GRILLES, HEATING PIPING, ETC.
- 9. ALL DOMESTIC HOT AND COLD WATER PIPING RUN OVERHEAD SHALL BE LOCATED THE CEILING INSULATION FOR FREEZE PROTECTION.

LEGEND

DOMESTIC COLD WATER PIPING (C.W.) DOMESTIC HOT WATER (H.W.) SANITARY SEWER OR WASTE PIPE (W.P.) SANITARY VENT PIPING (V.P.) C.O. **** CLEANOUT (WALL TYPE) (W.C.O.) CLEANOUT (FLOOR TYPE) (C.O.) C.O. ①—— V.T.R. 기다 VENT THRU ROOF (V.T.R.) FLOOR DRAIN (F.D.) PIPING TURN UP PIPING TURN DOWN GATE VALVE VACUUM RELIEF VALVE UNION TEMPERATURE AND PRESSURE RELIEF VALVE HOSE BIBB

WALL HYDRANT

ABBREVIATIONS

A.F.F. ABOVE FINISHED FLOOR

ABOVE FINISHED GRADE A.F.G.

ACCESS PANEL A.P. C.W. DOMESTIC COLD WATER PIPING

F.C.O. CLEANOUT (FLOOR TYPE)

F.D. FLOOR DRAIN

DOMESTIC HOT WATER

HOSE BIBB

KILO WATTS

HORSE POWER

DOMESTIC HOT WATER RETURN

NATIONAL FIRE PROTECTION ASSOCIATION

PLUMBING STANDARDS INSTITUTE

RAIN LEADER

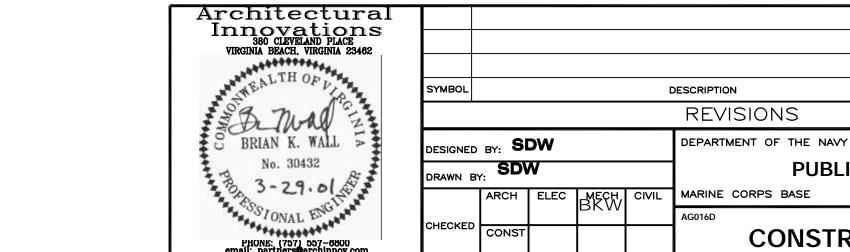
ROOF DRAIN

VENT THRU ROOF

SANITARY VENT PIPING

CLEANOUT (WALL TYPE) WALL HYDRANT

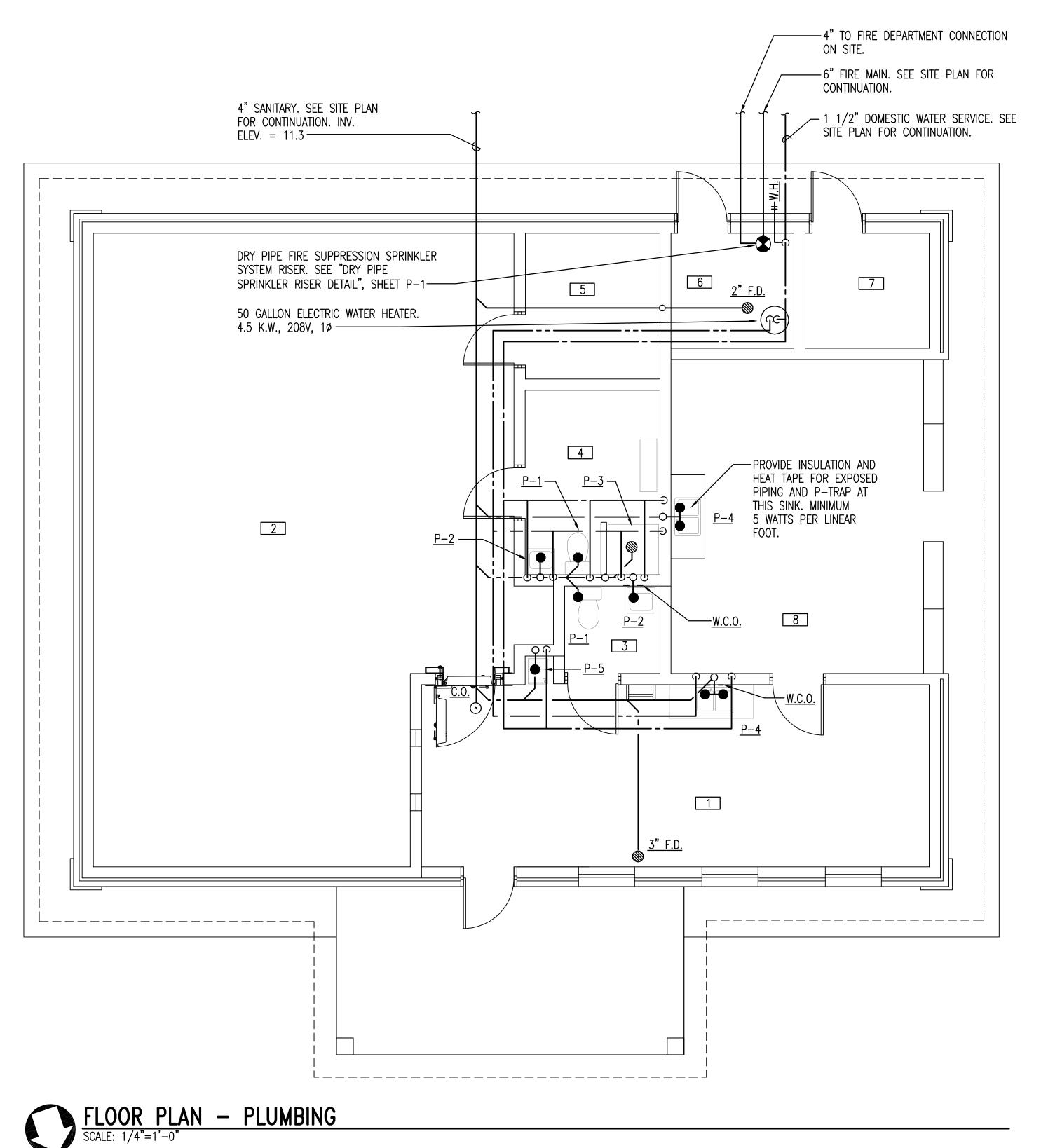
SANITARY SEWER OR WASTE PIPE

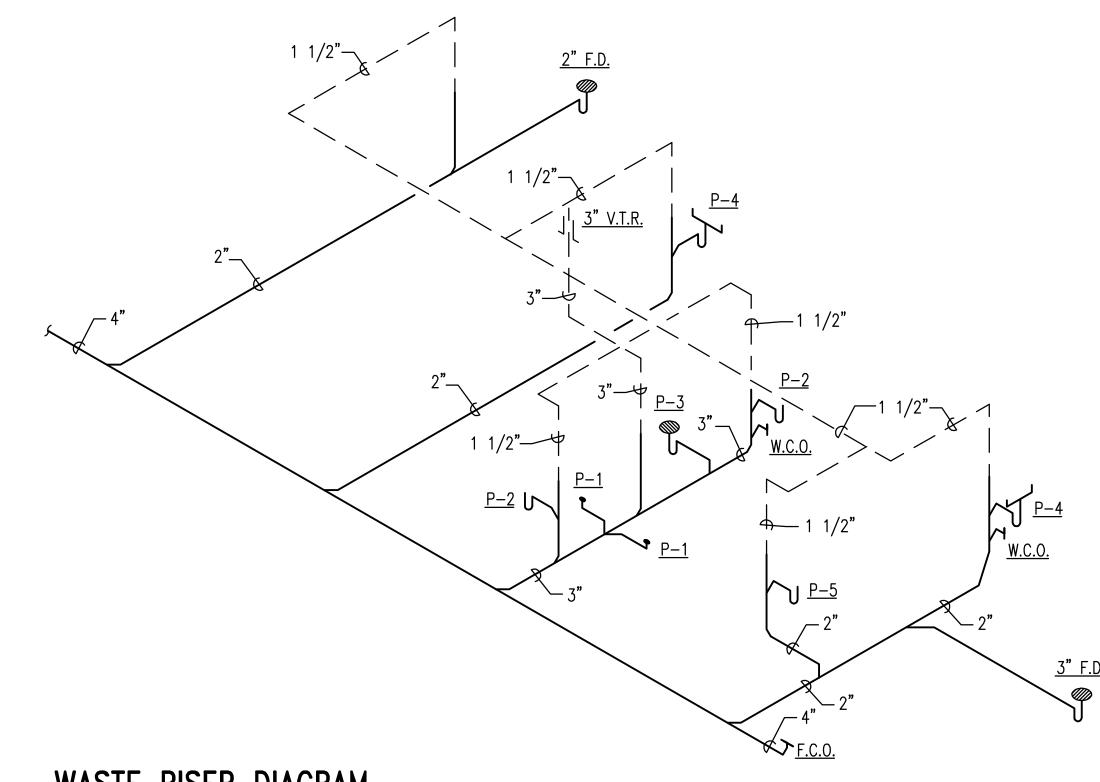




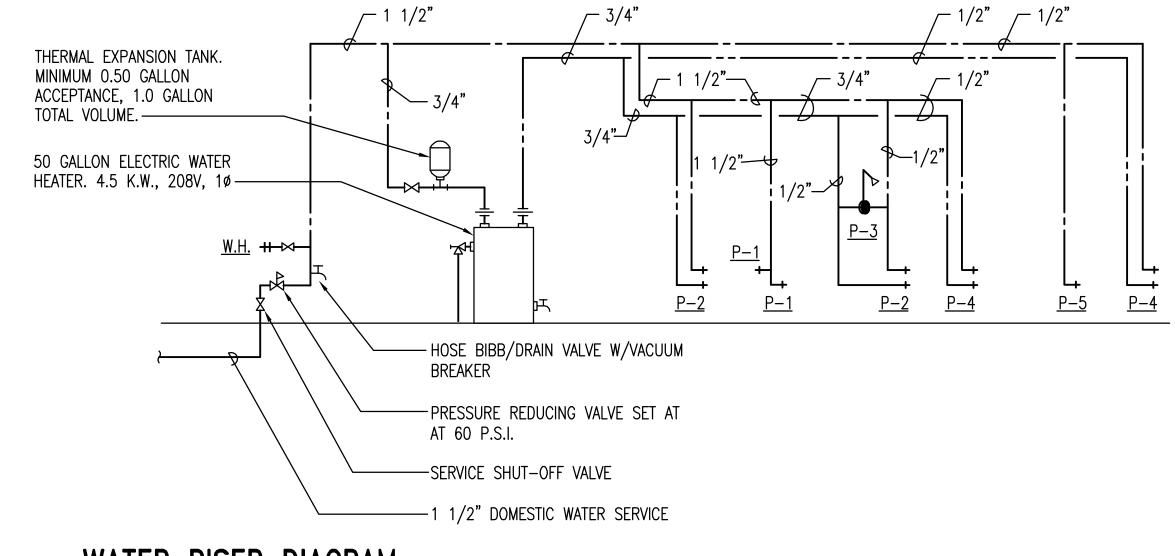
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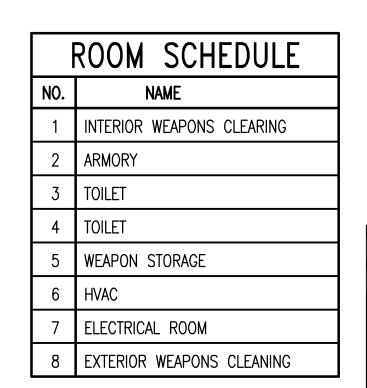


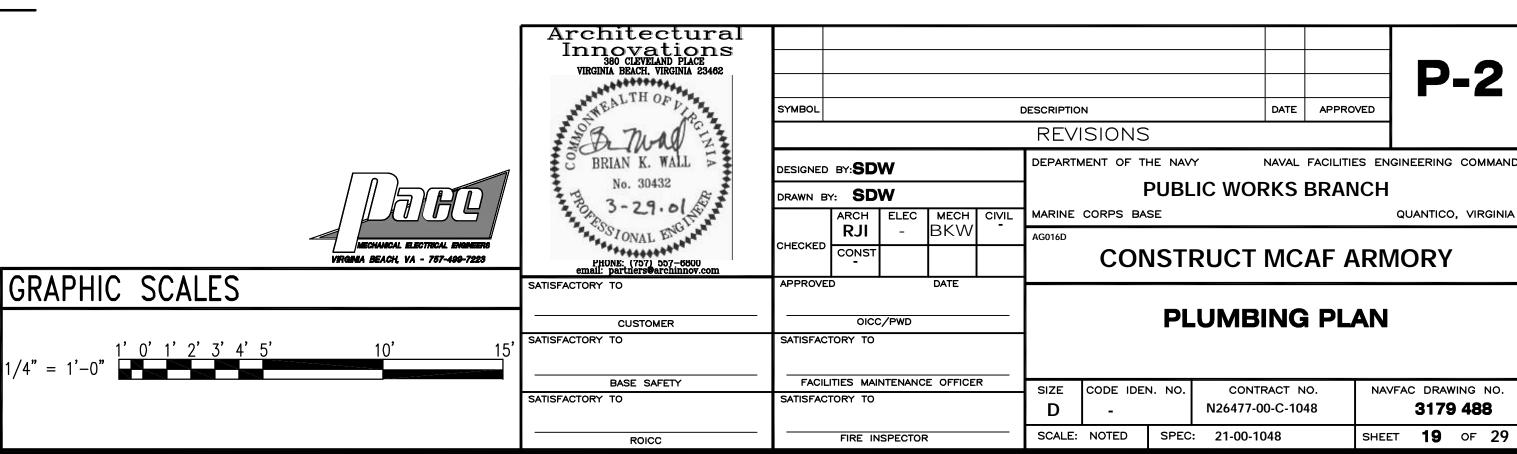


WASTE RISER DIAGRAM



WATER RISER DIAGRAM
NO SCALE





GENERAL NOTES

GENERAL ITEMS

GENERAL NOTES ON THIS DRAWING ARE APPLICABLE TO EACH HVAC DRAWING OF THIS SET. SEE EACH DRAWING FOR SPECIFIC NOTES APPLICABLE TO THAT DRAWING.

COORDINATE THAT OUTSIDE AIR INTAKE OPENINGS FOR VENTILATION AIR ARE LOCATED AT LEAST 10 FEET MEASURED IN ANY DIRECTION FROM ANY FLUES, VENTS, CHIMNEYS, GAS METERS, GAS REGULATORS, PLUMBING VENTS UNLESS TOP OF SUCH INTAKE OPENING IS 2 FEET BELOW ANY OF THE LISTED ITEMS.

OVERHEAD DUCTWORK AND PIPING IN SPACES WITH CEILINGS SHALL BE CONCEALED UNLESS OTHERWISE NOTED.

PROVIDE PIPE SLEEVES LARGE ENOUGH TO ALLOW FOR REQUIRED LATERAL MOVEMENT OF PIPING.

EXERCISE DUE CAUTION IN INSTALLING RUNOUTS AND BRANCH PIPING FROM MAINS FOR EXPANSION MOVEMENT.

COORDINATE LOCATION OF GRILLES, REGISTERS, DIFFUSERS, THERMOSTATS AND OTHER WALL OR CEILING MOUNTED HVAC ACCESSORIES WITH REFLECTED CEILING PLAN, LIGHTING FIXTURE LAYOUT AND ACCESSORIES INSTALLED BY OTHER TRADES SO AS TO PRESENT A NEAT AND ATTRACTIVE INSTALLATION THROUGHOUT THE ENTIRE BUILDING.

ARRANGE PIPING AND DUCTWORK, PARTICULARLY ABOVE CEILING AS REQUIRED TO CLEAR STRUCTURE, DUCTS, CONDUITS, ETC. ALLOWING SPACE FOR PIPE HANGERS, EXPANSION LOOPS AND ACCESS TO VALVES, FILTERS, AND MAINTENANCE OF EQUIPMENT.

EQUIPMENT WITH FILTERS SHALL BE INSTALLED SO THAT FILTERS CAN BE EASILY REMOVED AND REPLACED.

CONTRACTOR SHALL VERIFY REFRIGERANT PIPE SIZES WITH EQUIPMENT MANUFACTURER FOR THE INDICATED INSTALLATION.

COORDINATE LOCATION AND INSTALLATION OF EQUIPMENT WITH OTHER TRADES.

DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DOORS, WINDOWS, ETC.

THERMOSTATS SHALL BE LOCATED IN THE ROOMS INDICATED. INSTALL AT 48" ABOVE FINISH FLOOR.

PIPING, DUCTWORK, VENTS, ETC., EXTENDING THROUGH EXTERIOR WALLS AND ROOF SHALL BE FLASHED AND COUNTER FLASHED IN A WEATHERPROOF MANNER.

VALVES AND SPECIALTIES SHALL BE LINE SIZE EXCEPT FOR CONTROL VALVES OR UNLESS NOTED OTHERWISE.

EXTEND DRAIN LINES TO NEAREST FLOOR DRAIN OR AS INDICATED. ROUTING SHALL NOT INTERFERE WITH PASSAGEWAYS AND MAINTENANCE. DRAINS FROM AIR CONDITIONING CONDENSATE DRAIN PANS SHALL BE TRAPPED. SLOPE CONDENSATE DRAIN PIPING AT 1/4" PER FOOT. VERIFY INVERT IS ESTABLISHED AFTER AIR HANDLING UNIT IS INSTALLED BUT PRIOR TO DUCTWORK INSTALLATION.

PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH WALLS. ROOF AND PARTITIONS. UNLESS OTHERWISE INDICATED.

PROVIDE RIGID INSULATION ON ALL EXPOSED DUCTWORK.

NO PIPING SHALL BE SMALLER THAN 3/4" UNLESS OTHERWISE NOTED.

RUNOUTS SHALL PITCH DOWN IN DIRECTION OF FLOW A MINIMUM OF 1" IN 3'.

FOR PIPE SIZES NOT INDICATED ON PLANS, SEE EQUIPMENT CONNECTION DETAILS, FLOW DIAGRAMS AND RISER DIAGRAMS AND PIPE SIZING SCHEDULE.

PROVIDE UNION OR FLANGED CONNECTIONS AT EACH PIECE OF EQUIPMENT AND ON BOTH SIDES ON CONTROL VALVES AND PRESSURE REGULATING VALVES. PROVIDE SHUT-OFF VALVES ON BOTH SIDES OF AUTOMATIC VALVES.

RELIEF VALVE PIPING SHALL BE EXTENDED TO THE NEAREST FLOOR DRAIN.

FLOOR MOUNTED EQUIPMENT IN THE MECHANICAL ROOMS SHALL BE LOCATED ON 6" THICK CONCRETE HOUSEKEEPING PADS UNLESS OTHERWISE INDICATED.

PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS.

ADDITIONAL SUPPORTS OR HANGERS SHALL BE ADJACENT TO ELBOWS, TO PREVENT WEIGHT OF PIPING BEING PLACED ON THE EQUIPMENT.

CORRECT SETTING ON BALANCING FITTINGS SHALL BE PERMANENTLY MARKED.

LOCATE AND SIZE CONCRETE PADS AND CURBS FOR MECHANICAL EQUIPMENT IN ACCORDANCE WITH ACTUAL EQUIPMENT PURCHASED.

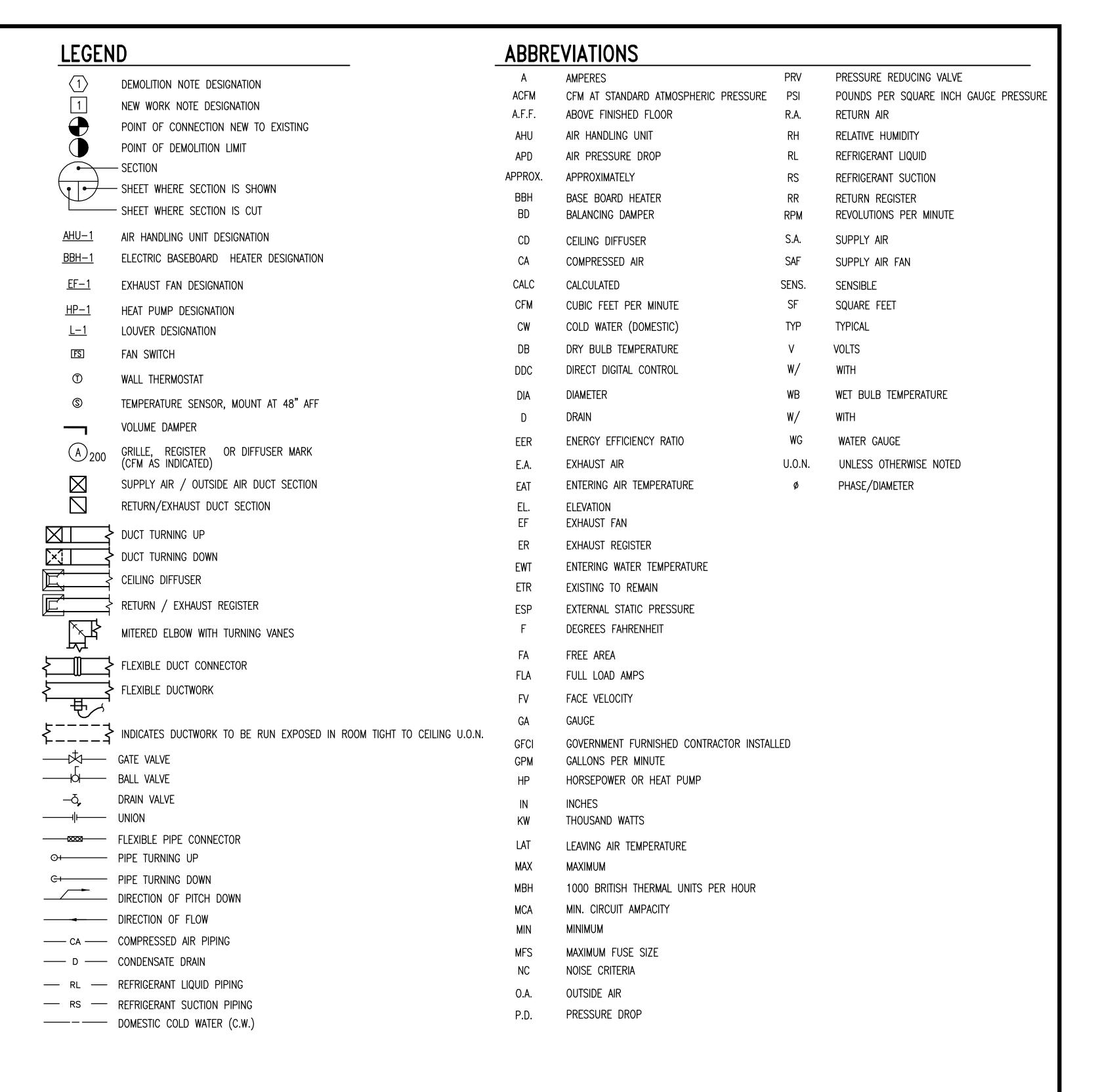
FOR LOCATION OF MOTOR STARTERS, SEE ELECTRICAL DRAWINGS.

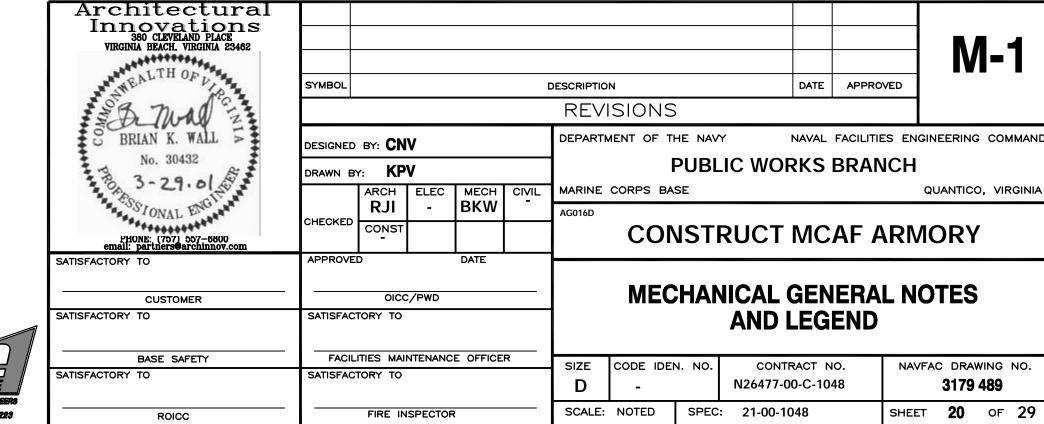
SHEET METAL

INSTALL CEILING REGISTERS A MINIMUM OF 4" FROM EXTERIOR WALL.

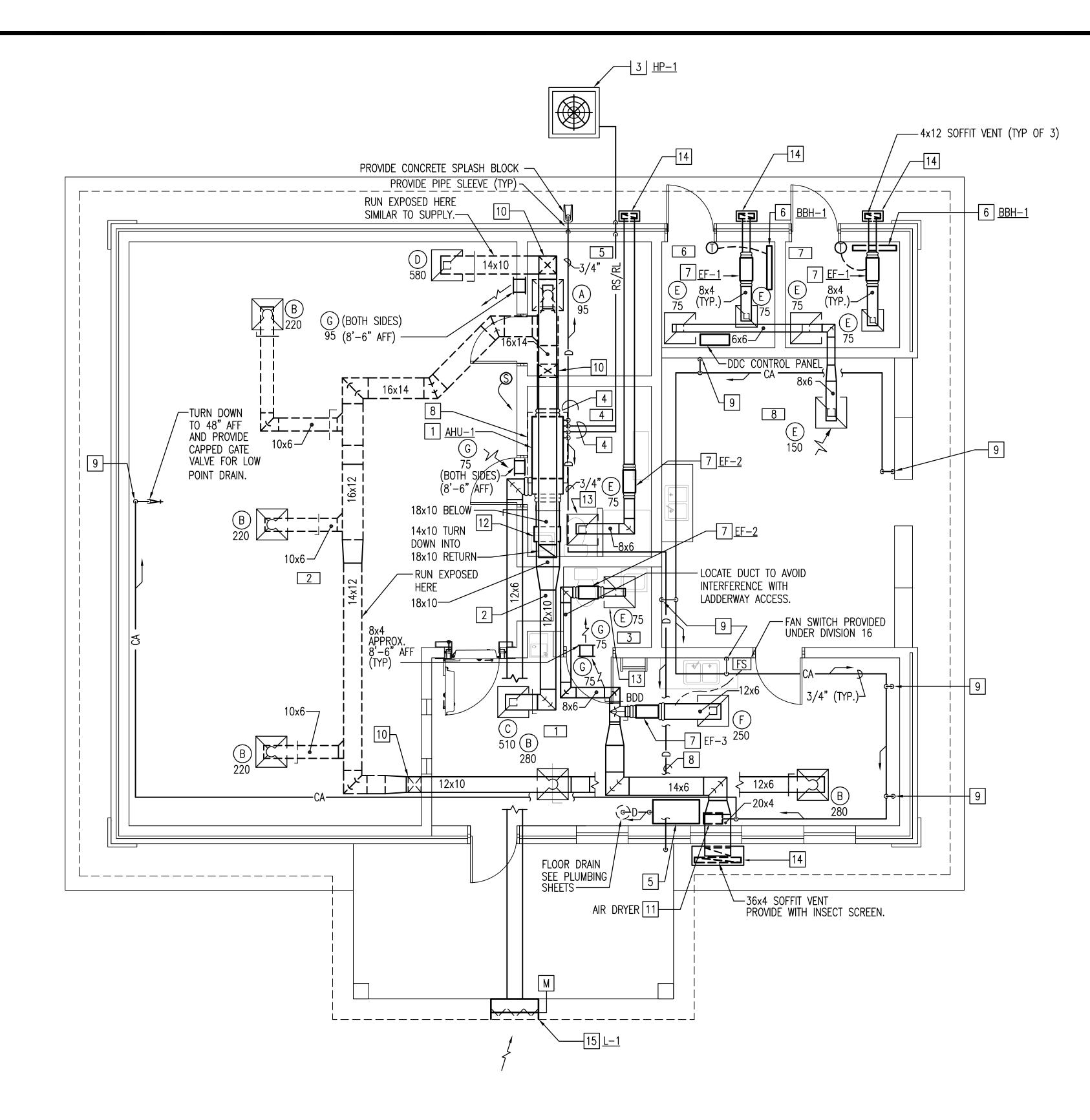
PROVIDE A MINIMUM OF THREE TIMES THE FAN DIAMETER OF STRAIGHT DUCTWORK OFF THE SUPPLY AIR FAN DISCHARGE BEFORE ANY TAKEOFFS OR ELBOWS.

DUCTWORK SHALL BE CONSTRUCTED TO THE SMACNA STATIC PRESSURE CLASSIFICATION OF 2" W.G. AND SEAL CLASS "C".









	ROOM SCHEDULE
NO.	NAME
1	INTERIOR WEAPONS CLEARING
2	ARMORY
3	TOILET
4	TOILET
5	WEAPON STORAGE
6	HVAC
7	ELECTRICAL ROOM
8	EXTERIOR WEAPONS CLEANING

WORK NOTES

- 1 PROVIDE AIR HANDLING UNIT SUITABLE FOR HEAT PUMP SERVICE WITH ELECTRIC RESISTANCE AUXILIARY HEATING COIL. PROVIDE WALL MOUNTED TEMPERATURE SENSOR. TEMPERATURE SENSOR HANDLING UNIT FROM UPPER STRUCTURE OF TRUSS MEMBERS ABOVE CEILING. REFER TO STRUCTURAL DRAWINGS FOR SHEATHING OF MECHANICAL PLATFORM. COORDINATE LOCATION WITH TRUSS MEMBERS - ENSURE SERVICE CLEARANCES ARE MAINTAINED. SEE STRUCTRUAL SHEETS. SEE HEAT PUMP SCHEDULE ON SHEET M-4.
- 2 PROVIDE DIFFUSER/REGISTER, DUCTWORK, INSULATION, HANGERS AND SUPPORTS COMPLETE DUCTWORK TO BE RUN IN ATTIC ABOVE CONCRETE CEILING EXCEPT AS NOTED. COORDINATE DUCT LOCATION WITH ATTIC TRUSS MEMBERS.
- 3 PROVIDE OUTDOOR HEAT PUMP AND CONCRETE PAD. SEE DETAIL ON SHEET M-3, AND HEAT PUMP SCHEDULE ON SHEET M-4.
- 4 PROVIDE RS/RL (SHOWN SINGLE LINE FOR CLARITY) CONDENSATE PIPING INSULATION, SUPPORTS AND HANGERS. ROUTE CONDENSATE PIPING TO SPLASH BLOCK BEHIND BUILDING.
- 5 INSTALL TWO-STAGE SIMPLEX AIR COMPRESSOR (VERTICAL INSTALLATION) WITH RECEIVER, INTERCOOLER, CONTINUOUS LOW LEVEL PROTECTION, AIR COOLED AFTER COOLER, AUTOMATIC CONDENSATE DRAIN VALVE, DRY-TYPE INLET FILTER/SILENCER AND VIBRATION ISOLATORS, 3/4 HP, 120V, 5.3 ACFM AT 125 PSI WITH 30 GALLON RECEIVER. NOTE COMPRESSOR IS GFCI TO BE CONTRACTOR INSTALLED. PROVIDE CONDENSATE PIPING AND TURN DOWN TO SPILL INTO FLOOR
- 6 PROVIDE ELECTRIC BASEBOARD HEATER BBH-1 AND MOUNT ON WALL WITH BOTTOM OF UNIT 8" MINIMUM AFF. SEE ELECTRIC BASEBOARD HEATER SCHEDULE SHEET M-4.
- 7 PROVIDE IN-LINE EXHAUST FAN IN ATTIC. SEE FAN SCHEDULE ON SHEET M-4.
- 8 PROVIDE EMERGENCY DRAIN PAN, SEE DETAIL SHEET M-3. PROVIDE EMERGENCY CONDENSATE DRAIN AND RUN TO EXTERIOR OF BUILDING.
- 9 PROVIDE AIR TOOL STATION AND TWO QUICK DISCONNECTS WITH FILTER, PRESSURE REDUCING VALVE, GAGE, CUTOUT VALVE, 1/2" LOW POINT DRAIN WITH CUTOUT VALVE AND MOISTURE SEPARATOR. SEE DETAIL ON SHEET M-3.
- 10 TURN SUPPLY DUCT DOWN THRU PRECAST CONCRETE CEILING AND RUN DUCT EXPOSED IN ROOM NO'S 2 AND 5 AS TIGHT TO CEILING AS POSSIBLE. RUN RETURN DUCT UP THROUGH PRECAST CONCRETE CEILING AND RUN ABOVE UNIT TO PLENUM RETURN. PROVIDE ALL EXPOSED SUPPLY AND RETURN DUCTWORK IN ROOMS WITH RIGID PAINTABLE INSULATION. SEE DETAIL 5/A3/A3 FOR PENETRATION REQUIREMENTS. COORDINATE OPENINGS FOR PENETRATION OF DUCTWORK THRU PRE-CAST CONCRETE PLANKS AND LOCATION OF TRUSS MEMBER. SEE STRUCTURAL SHEETS.
- 11 PROVIDE WALL MOUNTED AIR DRYER 10 CFM MINIMUM CAPACITY, 125 PSI. SEE DETAIL ON SHEET M-3.
- PROVIDE CHARCOAL FILTRATION AND RACK. INCLUDE 2" PREFILTER UPSTREAM OF CHARCOAL FILTRATION. PROVIDE REPLACEMENT SET AND TURN OVER TO CONTRACTING OFFICER. COORDINATE LOCATION WITH TRUSS MEMBERS - ENSURE SERVICE CLEARANCES ARE MAINTAINED. SEE STRUCTRUAL SHEETS. SEE "CHARCOAL FILTER RACK DETAIL" SHEET M-3.
- 13 PENETRATE PRECAST CONC. CEILING, SEE DETAIL 5/A3/A3 FOR PENETRATION REQUIREMENTS. COORDINATE OPENINGS FOR PENETRATION OF DUCTWORK THRU PRE-CAST CONCRETE PLANKS.
- 14 PROVIDE PLENUM BOX ABOVE SOFFIT WIDE ENOUGH TO COVER SOFFIT VENT AND EXTEND EXHAUST DUCT ABOVE TOP OF EXTEROR WALL BETWEEN 2x6 ROOF TRUSSES TO PLENUM BOX. COORDINATE EXACT LOCATION WITH TRUSS MEMBERS, SEE STRUCTURAL SHEETS.
- 15 SUPPLY AIR LOUVER IN GABLE WALL, SEE LOUVER SCHEDULE SHEET M-4. PROVIDE INSULATED SHEET METAL PLENUM FULL SIZE OF LOUVER, MOTORIZED DAMPER AND INSECT SCREEN. SEE ARCHITECTURAL SHEETS.





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Architectural Innovations
380 CLEVELAND PLACE
VIRGINIA BEACH, VIRGINIA 23462 REVISIONS DESIGNED BY: CNV

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND **PUBLIC WORKS BRANCH** RJI - BKW MARINE CORPS BASE QUANTICO, VIRGINIA

GRAPHIC SCALES



OICC/PWD CUSTOMER FACILITIES MAINTENANCE OFFICER BASE SAFETY SATISFACTORY TO

DRAWN BY: KPV

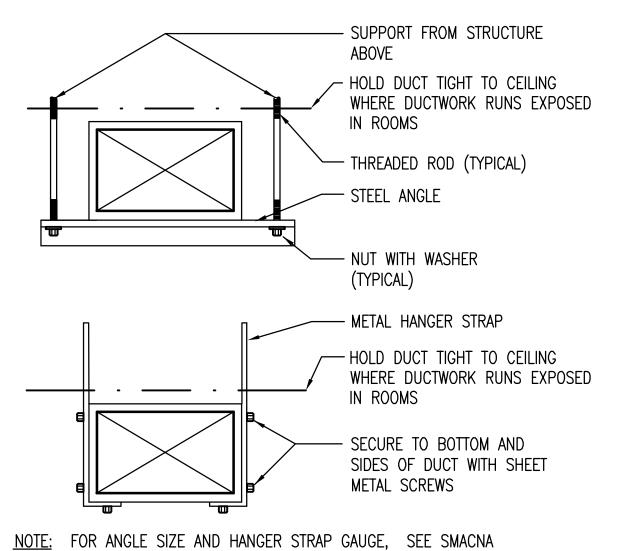
RJI

MECHANICAL FLOOR PLAN

CONSTRUCT MCAF ARMORY

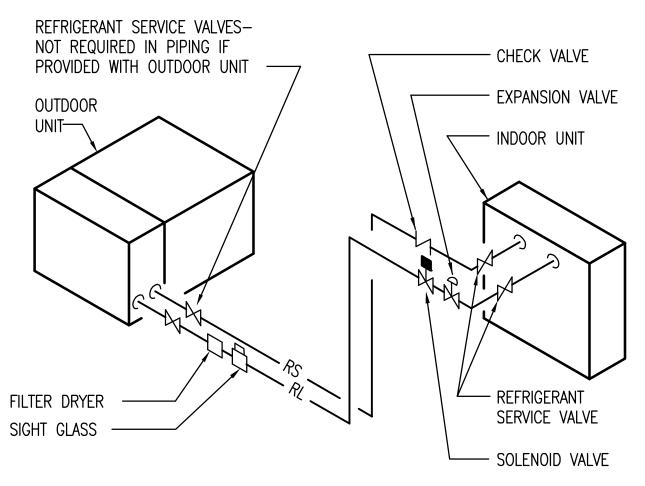
M-2

NAVFAC DRAWING NO. SIZE CODE IDEN. NO. CONTRACT NO. N26477-00-C-1048 9179 490 SCALE: NOTED SPEC: 21-00-1048 FIRE INSPECTOR SHEET **21** OF **29**



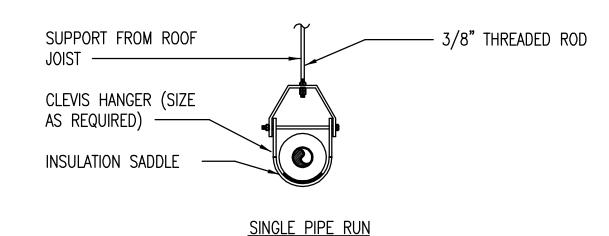
LOW PRESSURE DUCT CONSTRUCTION STANDARDS.

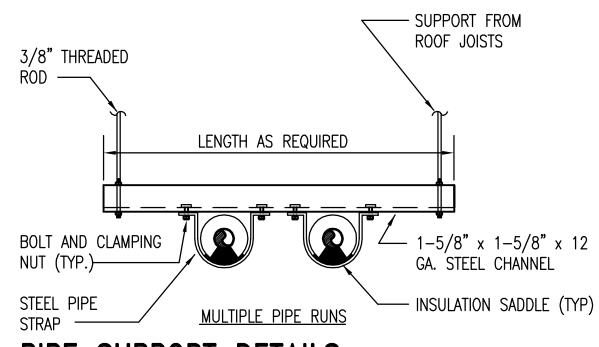
DUCT SUPPORT DETAIL NO SCALE



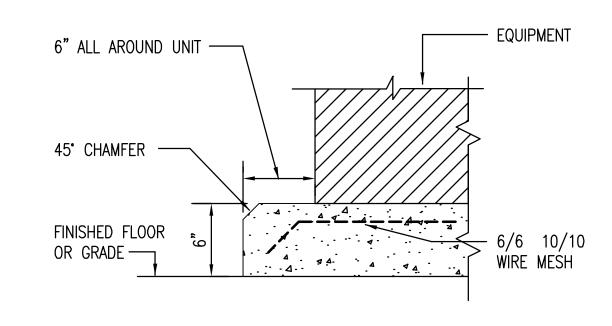
NOTE: CHARGING CONNECTIONS AND SERVICE PORTS SHALL BE PROVIDED WHERE RECOMMENDED BY THE MANUFACTURER.

REFRIGERANT PIPING DETAIL NO SCALE

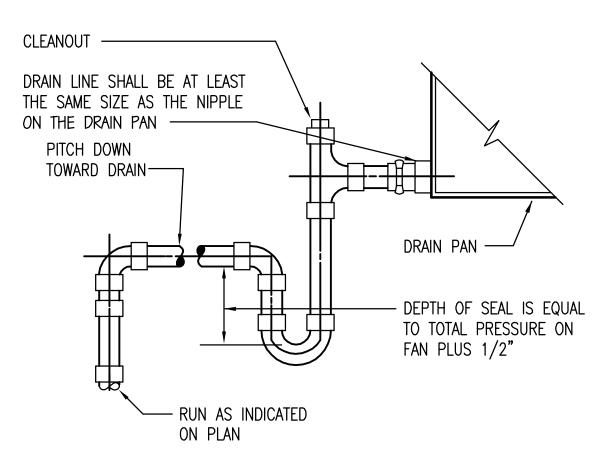




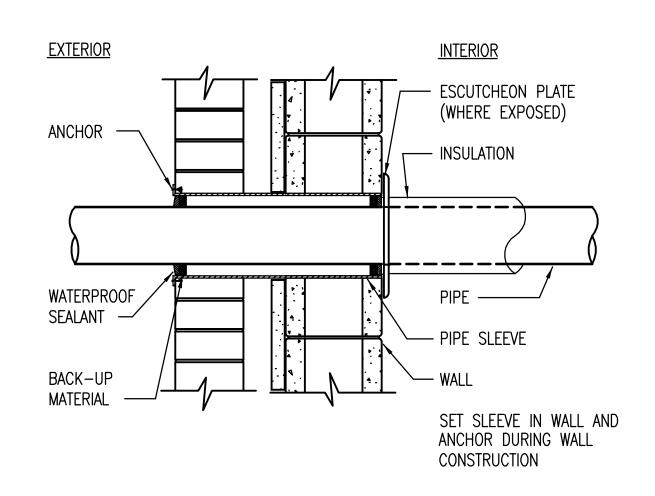
PIPE SUPPORT DETAILS NO SCALE



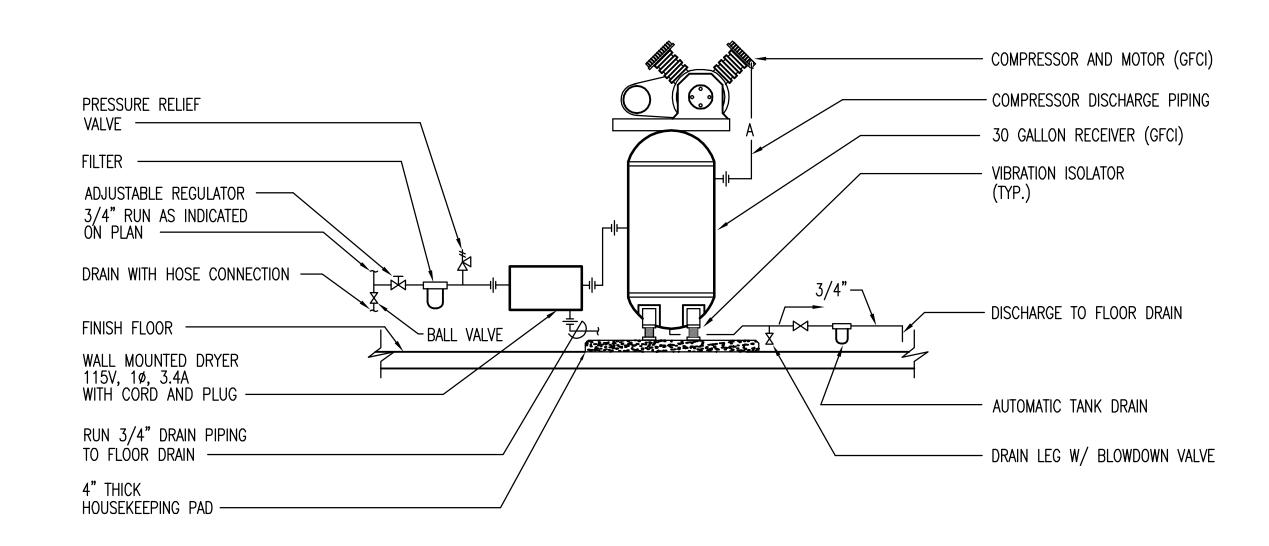
CONCRETE PAD DETAIL



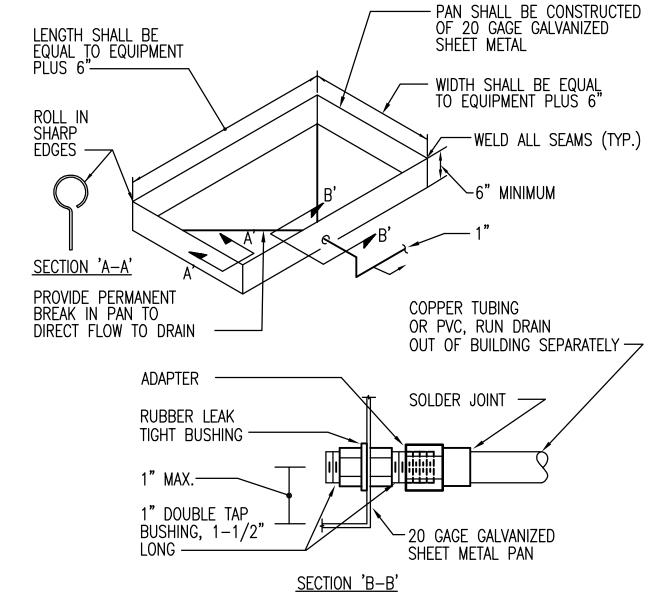
TYPICAL CONDENSATE DRAIN TRAP



PIPE SLEEVE THRU EXTERIOR WALL DETAIL



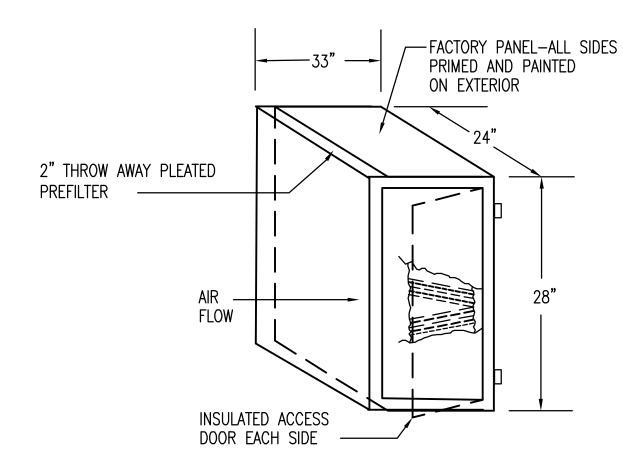
AIR COMPRESSOR PIPING DIAGRAM NO SCALE



EMERGENCY DRAIN PAN DETAIL

NO SCALE

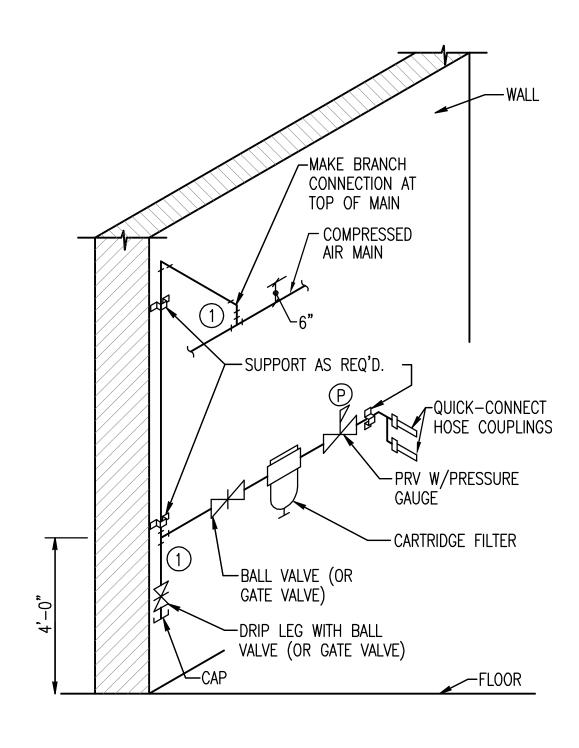




NOTES:

- 1. FILTER RACK IS BASED ON FARR 3CF GLIDE/PACK. UNIT.
- 2. PROVIDE 30" MIN CLEARANCE EACH SIDE.
- 3. THE FILTER RACK ASSEMBLY SHALL HAVE THE FOLLOWING CHRACTERISTICS: 1200 CFM, PRESSURE DROP THROUGH THE, CARBON FILTER: .20" WG, PRESSURE DROP THROUGH 2" 30" PLEATED FILTER INITIAL: 0.1" WG. (0.6" WG FINAL)

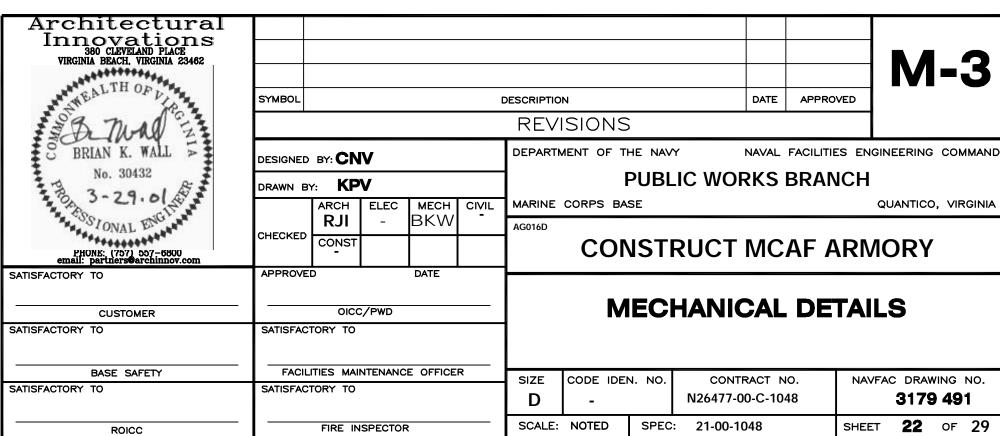
CARBON ACTIVATED CHARCOAL FILTER RACK DETAIL NO SCALE



TYPICAL COMPRESSED AIR TOOL STATION

NOT TO SCALE

1) FOR END OF LOW POINT OF MAIN, TAKE OFF FROM BOTTOM OF MAIN AND PROVIDE 18" LONG DRIP LEG.



	HEAT PUMP SCHEDULE — AIR TO AIR																					
		FAN DATA	\		COOLIN	NG DATA		HEATING DATA	SUPF	PLEMENTAL ELE	ECTRIC			C. DATA			E	LEC. DATA	OUTDOO	R UNIT	_	
MARK	TOTAL	OUTSIDE	E C D	MOTOD	TOTAL	CENC	LAINI	TOTAL		HEATER	•		IND	OOR UNIT		MARK	TOTAL	MIN.	MAX.			REMARKS
IVIAIN	TOTAL CFM	AIR	L.S.F.	MOTOR H.P.	TOTAL M.B.H.	SENS. M.B.H.	MIN.	TOTAL M.B.H.	CALC.	SELECTED	STAGES	MCA	MFS	VOLTS	PHASE		TOTAL	CIRCUIT	FUSE	VOLTS	PHASE	KEMAKKS
	CI IVI	CFM	W.C.	11.1 .	IVI.D.I I.	וויסיווי.	L.L.I\.	IVI.D.II.	K.W.	K.W.	JIAGES	IVICA	IVII J	VOLIS	THASE		I .L.∧.	AMPS	AMPS			
AHU-1	1315	225	1.25	1/2	40.9	28.2	10	37.3	10.9	15	2	48	50	208	1	HP-1	1.4	31.9	50	208	1	SEE NOTES

- NOTES: 1 COOLING CAPACITY BASED ON E.A.T. = 77.8°F DB / 66.2°F WB AND 91°F. AMBIENT AIR TEMPERATURE.
 - 2 HEATING CAPACITY BASED ON E.A.T. = 58.8°F DB AND 14°F. AMBIENT AIR TEMPERATURE.
 - 3 SUPPLEMENTAL ELECTRIC HEATER F.L.A. INCLUDED. ONE DISCONNECT SWITCH FOR EACH INDOOR UNIT.
 - 4 LEAVING AIR TEMPERATURE IS TO BE PROVIDED AT THE UNIT DISCHARGE, TOTAL AND SENSIBLE CAPACITIES ARE "NET" VALUES TO BE PROVIDED DOWNSTREAM OF THE SUPPLY AIR FAN.
 - 5 PROVIDE WITH LOW AMBIENT CONTROL KIT OPTION TO ALLOW FOR OPERATION OF HEAT PUMP DOWN TO 0°F. PROVIDE COMMERCIAL UNIT WITH COIL GUARDS AND ANTI-SHORT CYCLE CONTROLS.

	GRILLE, REGISTER & DIFFUSER SCHEDULE													
MARK	TYPE	SERVICE	CFM RANGE	NECK SIZE	MAX. P.D.	REMARKS								
A	CEILING DIFFUSER	SUPPLY	95	6x6	0.09	SURFACE MOUNT TO UNDERSIDE OF DUCT WITH LOUVERED FACE								
B	CEILING DIFFUSER	SUPPLY	220-280	9x12	0.08	SURFACE MOUNT TO UNDERSIDE OF DUCT WITH LOUVERED FACE								
<u>C</u>	CEILING REGISTER	RETURN	510	12 " ø	0.08	35° DEFLECTION, 3/4" SPACING SURFACE MOUNT								
D	CEILING REGISTER	RETURN	580	30x12	0.08	35° DEFLECTION, 3/4" SPACING SURFACE MOUNT TO UNDERSIDE OF DUCT								
E	CEILING REGISTER	EXHAUST/ TRANSFER	0-100	6x6	0.08	35° DEFLECTION, 3/4" SPACING SURFACE MOUNT								
F	CEILING REGISTER	EXHAUST	250	12x12	0.07	35° DEFLECTION, 3/4" SPACING SURFACE MOUNT								
G	SIDEWALL REGISTER	50-100	8x6	0.07	35° DEFLECTION, 3/4" SPACING SURFACE MOUNT									

THE FOLLOWING NOTES ARE TYPICAL UNLESS OTHERWISE NOTED:

- 1. PROVIDE <u>ALUMINUM</u> DIFFUSERS AND REGISTERS WITH OPPOSED BLADE VOLUME DAMPERS, BAKED OFF-WHITE ENAMEL FINISH (INCLUDING HEAD OF SCREWS), MAXIMUM NC=25 AT HIGHEST CFM AND PROVIDE SQUARE TO ROUND TRANSITION AS REQUIRED.
- PROVIDE 4-WAY PATTERN CEILING DIFFUSERS, U.O.N. ON PLANS OR SCHEDULE.
 MAXIMUM PRESSURE DROP SHALL INCLUDE VOLUME DAMPER WHERE DAMPER IS PROVIDED.

	EXHAUST FAN SCHEDULE													
TAG	LOCATION	SERVICE	FAN TYPE	CFM	E.S.P. IN. WG.	RPM	DRIVE	H.P.	VOLTS	PHASE	REMARKS			
EF-1	VARIOUS	EXHAUST	IN-LINE CENTRIFUGAL	75	0.3	1550	DIRECT	1/40	115	1	124			
EF-2	TOILET	EXHAUST	IN-LINE CENTRIFUGAL	75	0.375	1550	DIRECT	1/30	115	1	123			
EF-3	WPNS CLEANING	EXHAUST	IN-LINE CENTRIFUGAL	250	0.3	1300	DIRECT	1/20	115	1	125			

NOTE:

- 1) PROVIDE WITH ELECTRICAL DISCONNECT AND BACKDRAFT DAMPER.
- (2) PROVIDE WITH INTEGRAL SPEED CONTROLLER.
- 3 INTERLOCK FAN TO ACTIVATE WITH ROOM LIGHT.
- PROVIDE FAN WITH A WALL MOUNTED LINE VOLTAGE THERMOSTAT, FOR FANS SERVING HVAC ROOM 6 AND ELECTRICAL ROOM 7 ONLY. ON A RISE IN SPACE TEMPERATURE ABOVE THE SET POINT (85°F) THE EXHAUST FAN SHALL BE ENERGIZED. ON A DROP IN SPACE TEMPERATURE BELOW THE SET POINT THE OPPOSITE SHALL OCCUR.
- (5) FAN SHALL BE CONTROLLED BY A WALL MOUNTED FAN SWITCH.

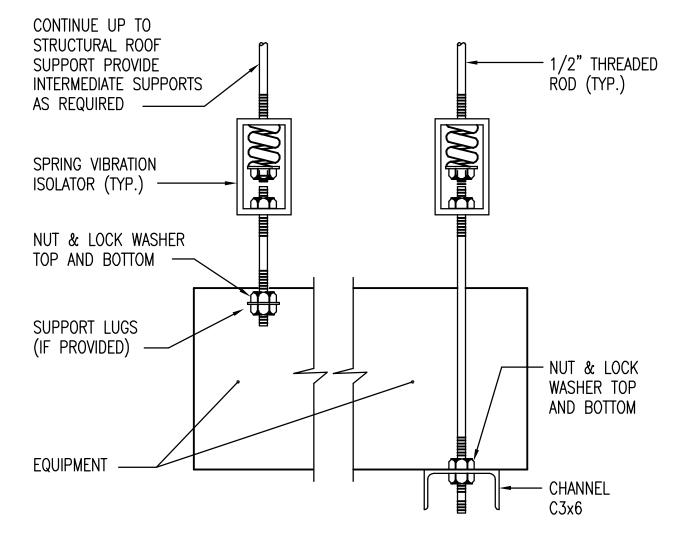
ELI	ECTRIC	BASE	BOAI	RD H	EATER	SCHEDULE
MARK	WATTS	VOLT	Ø	HZ	LENGTH IN FEET	REMARKS
BBH-1	1000	120	1	1	2	SEE NOTES

NOTES:

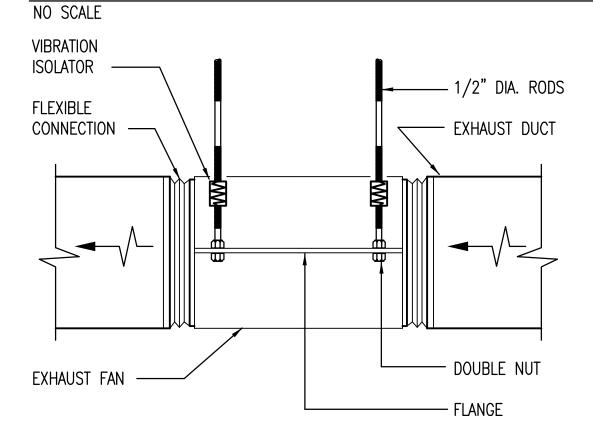
1) PROVIDE WITH BUILT-IN THERMOSTAT.

HVAC I	DESI	GN	CONDI	ΓΙΟΝ	S	
		INDOO	RS		OUTDOO	ORS
CONDITIONED AREA	SUMI	MER	WINTER	SUMI	MER	WINTER
	•Fdb	%RH	•Fdb	°Fdb	%RH	*Fdb
CONDITIONED SPACES	78	50	68	91	78	14
STORAGE	1	1	55	91	78	14

NOTE: 1 VENTILATION ONLY.

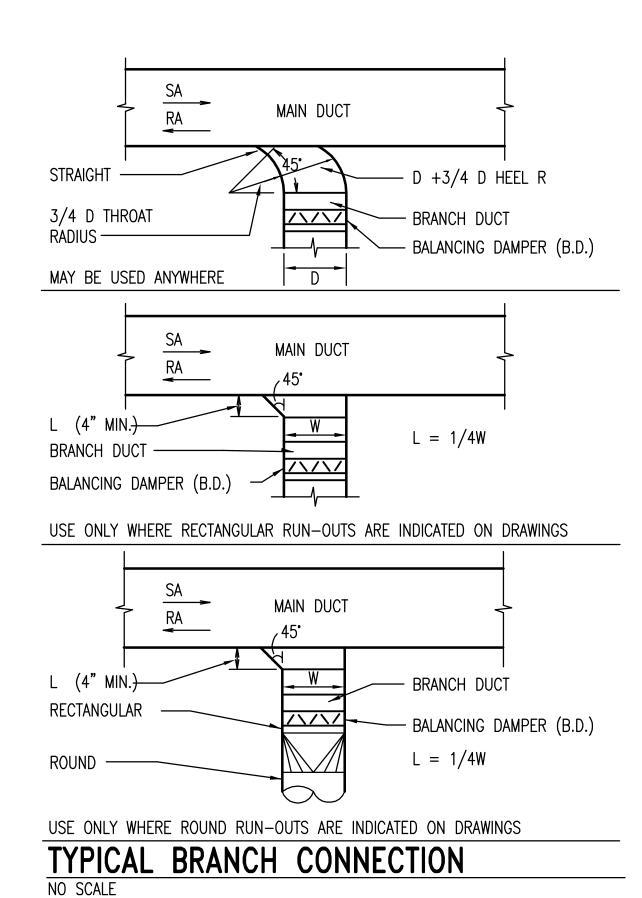


SUSPENDED EQUIPMENT SUPPORT DETAIL



IN-LINE EXHAUST FAN SUPPORT DETAIL





			LOUVER S	SCHED	ULE		
MARK	SIZE INCHES MINIMUM	VELOCITY FPM MAXIMUM	FREE AREA SQUARE FT. MINIMUM	CFM	PRESSURE DROP INW.G. @ 500 FPM	TYPE	REMARKS
L-1	16ø	600	0.38	255	0.06	STATIONARY INTAKE	SEE NOTES BELOW

- NOTES: 1. REFER TO ARCHITECTURAL SHEETS FOR EXACT LOCATION OF LOUVER AND ADDITIONAL DETAILED INFORMATION NOT SHOWN.
 - 2. PROVIDE WITH BIRDSCREEN.
 - 3. REFER TO ARCHITECTURAL SECTION 08110 FOR SPECIFICATIONS OF LOUVER.

Architectural Innovations 380 CLEVELAND PLACE VIRGINIA BEACH, VIRGINIA 23462	SYMBOL	DESCRIPTION DATE APPROVED REVISIONS
S BRIAN K. WALL >	DESIGNED BY: CNV	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
No. 30432 3-29.01	DRAWN BY: KPV	PUBLIC WORKS BRANCH
075-27.61	RJI - BKW	MARINE CORPS BASE QUANTICO, VIRGINIA
PHONE: (757) 557-6800 email: partners@archinnov.com	CHECKED CONST	CONSTRUCT MCAF ARMORY
SATISFACTORY TO	APPROVED DATE	
CUSTOMER	OICC/PWD	MECHANICAL SCHEDULES
SATISFACTORY TO	SATISFACTORY TO	AND DETAILS
BASE SAFETY SATISFACTORY TO	FACILITIES MAINTENANCE OFFICER SATISFACTORY TO	SIZE CODE IDEN. NO. CONTRACT NO. NAVFAC DRAWING NO.
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ROICC	FIRE INSPECTOR	SCALE: NOTED SPEC: 21-00-1048 SHEET 23 OF 29

SEQUENCE OF OPERATIONS

AN EXISTING SIEMENS BUILDING TECHNOLOGIES SYSTEM 600 DDC SYSTEM IS UTILIZED TO MONITOR CONTROL POINTS THROUGHOUT MANY OF THE FACILITIES AT THE MARINE CORPS BASE QUANTICO. THE NEW SYSTEM TO BE PROVIDED FOR THE ARMORY SHALL BE CONNECTED TO AND BECOME AN INTEGRAL PART OF THE EXISTING CENTRAL SYSTEM IN BUILDING 3252 UTILIZING SIEMENS APOGEE SOFTWARE. THE NEW SYSTEM SHALL BE FULLY COMPATIBLE WITH AND SHALL BE CONTROLLED DIRECTLY FROM THE EXISTING CENTRAL SYSTEM INCLUDING DOWNLOADING OF SOFTWARE, PROGRAMS, OPERATING PARAMETERS AND THE AUTOMATIC INTERROGATION OF ALL POINTS CONNECTED TO THIS SYSTEM. EACH CONTROL SYSTEM SHALL BE COMPLETE AND OPERATING AS SPECIFIED.

SPLIT-SYSTEM HEAT PUMP HP-1

AN APPLICATION SPECIFIC DDC CONTROLLER WILL CONTROL THE HEAT PUMP. THE CONDITIONED ROOMS SERVED BY THE HEAT PUMP SHALL BE CONTROLLED IN OCCUPIED AND UNOCCUPIED MODES AS FOLLOWS:

COOLING-OCCUPIED - WHEN INDEXED TO "OCCUPIED" MODE OR OVERRIDE PROGRAM IS INITIATED INDOOR UNIT SUPPLY AIR FAN SHALL BE ENABLED AND SHALL RUN CONTINUOUSLY, AND THE SUPPLY AIR FAN STATUS SHALL BE VERIFIED THROUGH A CURRENT SENSING RELAY, MOTORIZED O.A. DAMPER SHALL BE FULLY OPEN. AFTER THE SUPPLY AIR FAN STATUS HAS BEEN PROVEN, HEAT PUMP SHALL CYCLE TO MAINTAIN SPACE TEMPERATURE SET POINT (75°). IF THE SUPPLY AIR FAN STATUS IS NOT PROVEN WITHIN A PROGRAMMED TIME DELAY, AN ALARM SHALL BE INITIATED.

COOLING-UNOCCUPIED - WHEN INDEXED TO THE UNOCCUPIED MODE, THE MOTORIZED OUTSIDE AIR DAMPER SHALL BE FULLY CLOSED. AND THE SUPPLY AIR FAN SHALL BE DISABLED. ON A RISE ABOVE THE UNOCCUPIED SPACE TEMPERATURE SET POINT (85°F) THE SUPPLY AIR FAN SHALL BE ENABLED. AFTER THE SUPPLY AIR FAN STATUS HAS BEEN PROVEN THE HEAT PUMP AND SUPPLY AIR FAN SHALL CYCLE. ON A FALL BELOW THE UNOCCUPIED TEMPERATURE SET POINT THE REVERSE SHALL OCCUR.

HEATING-OCCUPIED - WHEN INDEXED TO THE OCCUPIED MODE OR OVERRIDE PROGRAM IS INITIATED, THE SUPPLY AIR FAN SHALL BE ENABLED AND SHALL RUN CONTINUOUSLY, AND THE SUPPLY AIR FAN STATUS SHALL BE VERIFIED THROUGH A CURRENT SENSING RELAY. MOTORIZED O.A. DAMPER SHALL BE FULLY OPEN. AFTER THE SUPPLY AIR FAN STATUS HAS BEEN PROVEN, THE HEAT PUMP, REVERSING VALVE AND SUPPLEMENTAL ELECTRIC HEATER SHALL SEQUENCE TO MAINTAIN THE SPACE TEMPERATURE AT SET POINT (68°F) IF THE SUPPLY AIR FAN STATUS IS NOT PROVEN WITHIN A PROGRAMMED TIME DELAY, AN ALARM SHALL BE INITIATED

HEATING-UNOCCUPIED - WHEN INDEXED TO THE UNOCCUPIED MODE, THE MOTORIZED OUTSIDE AIR DAMPER SHALL BE FULLY CLOSED, AND THE SUPPLY AIR FAN SHALL BE DISABLED. ON A FALL BELOW THE UNOCCUPIED SPACE TEMPERATURE SETPOINT (55°F) THE SUPPLY AIR FAN SHALL BE ENABLED. AFTER THE SUPPLY AIR FAN STATUS HAS BEEN PROVEN, THE HEAT PUMP, REVERSING VALVE AND SUPPLEMENTAL ELECTRIC HEATER SHALL SEQUENCE TO MAINTAIN UNOCCUPIED TEMPERATURE SETPOINT. ON A RISE ABOVE THE UNOCCUPIED TEMPERATURE SETPOINT THE OPPOSITE SHALL OCCUR.

OVERRIDE - IF THE UNOCCUPIED OVERRIDE BUTTON ON THE SPACE TEMPERATURE SENSOR IS ENABLED, THE UNIT WILL BE INDEXED TO THE OCCUPIED MODE FOR A PRE-PROGRAMMED TIME PERIOD AND OPERATE AS OUTLINED ABOVE.

ALARMS: THE CONTROLLER SHALL INITIATE AN ALARM UNDER THE FOLLOWING CONDITIONS:

LOW LIMIT SPACE TEMPERATURE - ALARMS IF SUPPLY AIR TEMPERATURE FALLS BELOW 60°F BEYOND A PROGRAMMED TIME DELAY.

HIGH LIMIT SPACE TEMPERATURE - ALARMS IF SUPPLY AIR TEMPERATURE RISES ABOVE 80°F BEYOND A PROGRAMMED TIME DELAY.

SUPPLY AIR FAN FAILURE

AIR FILTER STATUS (DIRTY FILTER) - ALARMS WHEN PRESSURE EXCEEDS 0.3" W.G. ABOVE INITIAL PRESSURE DROP WITH CLEAN FILTERS.

DDC-SIGNAL FUNCTION:

AHU FAN MOTOR - STATUS, START/STOP OUTDOOR HEAT PUMP - STATUS, START/STOP TEMPERATURE SENSOR - SPACE TEMPERATURE/TIMED OVERIDE FILTER DIFFERENTIAL PRESSURE-ALARM REVERSING VALVE - HEAT/COOL ELECTRIC HEAT - ENABLE/DISABLE O.A. DAMPER - OPEN/CLOSE

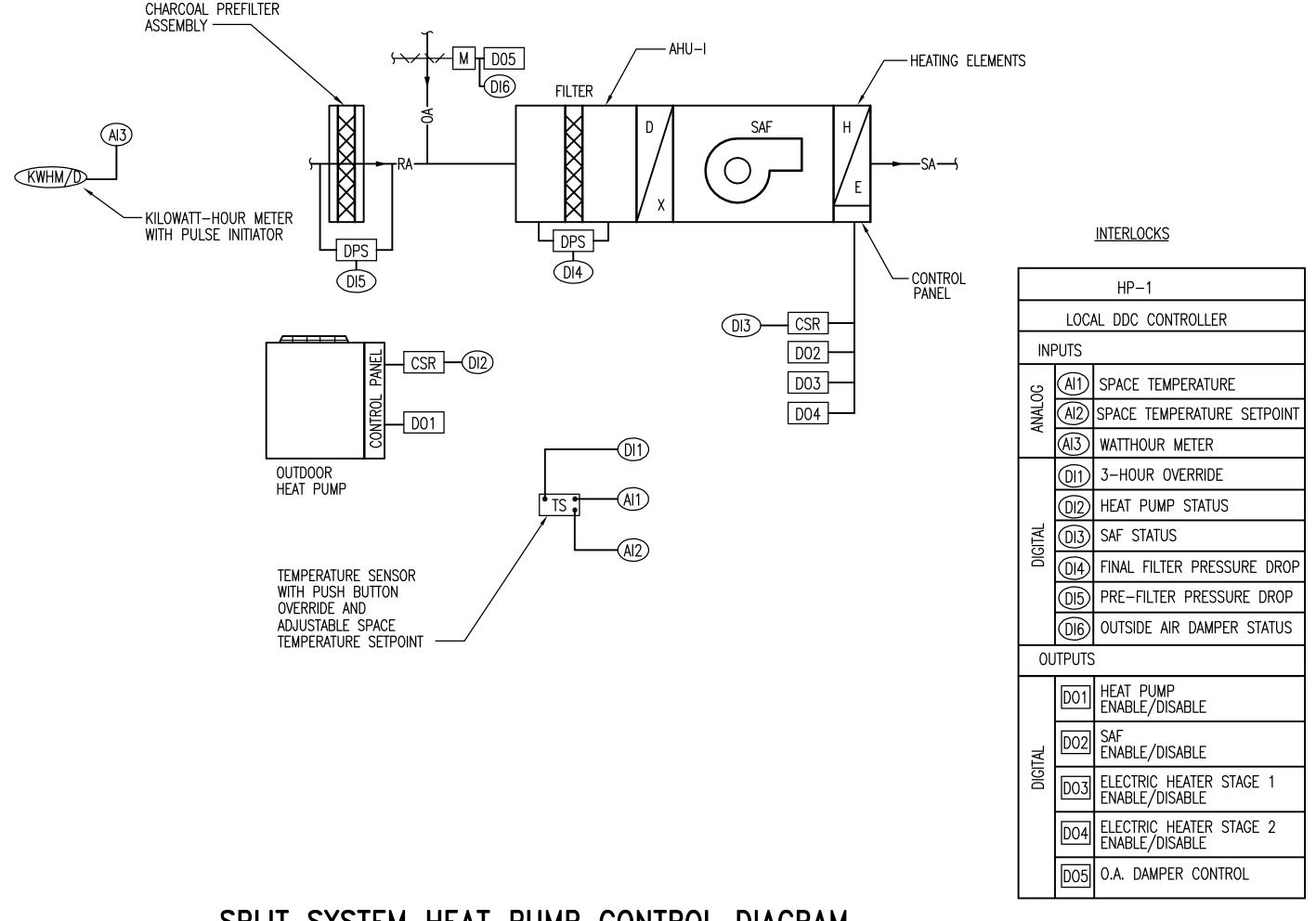
EXHAUST FAN EF-1 (NON DDC)- ACTIVATED BY COOLING THERMOSTAT ON A RISE IN TEMPERATURE ABOVE THE SETPOINT (80°-95°). ON A FALL IN TEMPERATURE THE REVERSE SHALL OCCUR.

EXHAUST FAN EF-2 (NON DDC)- SHALL BE ACTIVATED WITH THE TOILET ROOM LIGHTING (SEE ELECTRICAL).

EXHAUST FAN EF-3 (NON DDC)- SHALL BE ACTIVATED BY LOCAL FAN SWITCH WITH PILOT LIGHT (SEE ELECTRICAL).

ELECTRIC BASEBOARD HEATER (NON DDC)

WALL MOUNTED SPACE HEATER SHALL HAVE A MANUAL "OFF-AUTO" SWITCH. WHEN THE SWITCH IS INDEXED TO "OFF" THE HEATER IS DE-ENERGIZED. WHEN THE SWITCH IS INDEXED TO "AUTO" THE HEATER SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE FALLS BELOW THE THERMOSTAT SET POINT (55°F) THE HEATER ELEMENTS SHALL ENERGIZE, AND SHALL DE-ENERGIZE WHEN THE TEMPERATURE RISES ABOVE SETPOINT.



CONTROLS LEGEND

AIR HANDLING UNIT DESIGNATION HEAT PUMP DESIGNATION OUTSIDE AIR

RETURN AIR SUPPLY AIR

SUPPLY AIR FAN

DDC ANALOG INPUT POINT

REFRIGERANT COOLING COIL

DDC ANALOG OUTPUT POINT

CURRENT SENSING RELAY

(DI1) DIGITAL INPUT DIGITAL OUTPUT

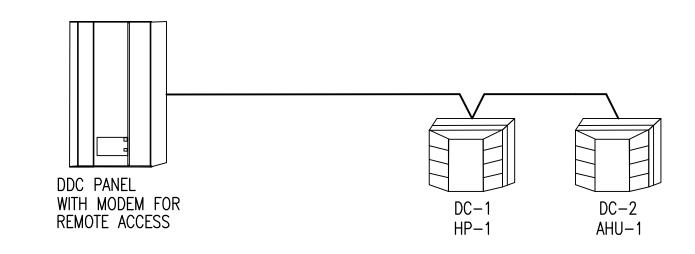
DPS DIFFERENTIAL PRESSURE SENSOR SWITCH

MOTOR ACTUATOR

TS TEMPERATURE SENSOR

(KWHM/D) KILOWATT-HOUR/DEMAND METER WITH PULSE INITIATOR

SPLIT SYSTEM HEAT PUMP CONTROL DIAGRAM



DDC SYSTEM ARCHITECTURE NO SCALE

NO SCALE

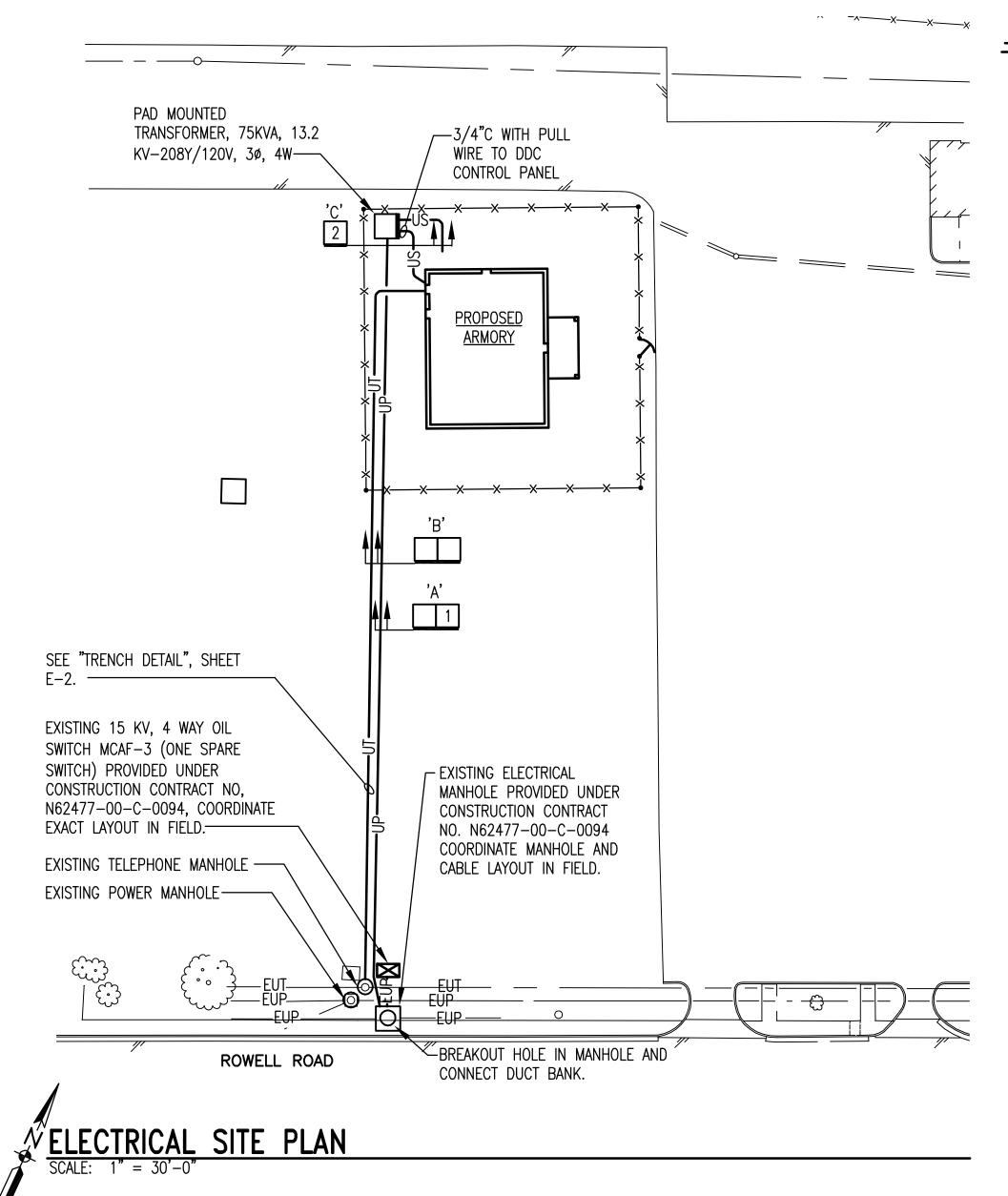


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	Innovations 380 CLEVELAND PLACE VIRGINIA BEACH, VIRGINIA 23462													_
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	S. D. Twal 22						REV	ISIONS	1					
	S BRIAN K. WALL >	DESIGNED	BY: CN	١٧			DEPART	MENT OF TH	HE NAV	Y NAV	AL FACILITIE	ES ENGIN	NEERING COI	MMAND
	No. 30432	DRAWN B	Y: KP	V			1	F	PUBL	IC WORK	S BRAN	ICH		
	3-27.01		ARCH	ELEC		CIVIL	MARINE	CORPS BAS	SE			Q	UANTICO, VII	RGINIA
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	CUSTOMER		OIC	C/PWD						CAL CO			EGEN	ן ע
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1												-		
// I	BASE SAFETY	FACIL	ITIES MAI	INTENANC	CE OFFICER	<u> </u>					<u>.</u> 1			
″	SATISFACTORY TO	SATISFAC	TORY TO				SIZE	CODE IDEN	v. NO.	CONTRACT		NAVFA	C DRAWING	
							D	-		N26477-00-C-	1048		3179 49	3
	ROICC		FIRE IN	NSPECTO	R		SCALE:	NOTED	SPEC	: 21-00-1048		SHEET	24 of	29

FIXTURE SYMBOL	SKETCH NO. & TYPE	NUMBER AND TYPE OF LAMPS	VOLTAGE	MOUNTING	NOTES
Â	NL-1B	4 F32/T8 35	120	SURFACE CEILING	
B	NL-1A	2 F32/T8 35	120	SURFACE CEILING	
<u>^</u>	NL-4A	2 F17/T8 35	120	SURFACE WALL, ABOVE MIRROR	OPTION 1
\triangle	NL-7B	2 F32/T8 35	120	SURFACE, CEILING	OPTION 1
Ê	NL-8B	2 F32/T8 35	120	SURFACE, CEILING	HOUSING OPTION 1, NOTE 1
Æ	NL-27A	1 70W HPS	120	RECESSED CEILING	UL LISTED FOR DAMP LOCATIONS
G	NL-56B	1 F13/T4 35	120	RECESSED CEILING	NOTE 2
\triangle	NL-53A	2 6W TUNGSTEN HALOGEN	120	WALL, 8'-0" AFF	

2. FIXTURE SHALL BE UL LISTED FOR WET LOCATION AND SHALL HAVE

MATTE WHITE ENAMEL FACE TRIM.



ELECTRICAL LEGEND (INTERIOR)

FLUORESCENT LIGHTING FIXTURE

 $Q \square O$ high intensity discharge or compact fluorescent lighting fixture

LIGHTING FIXTURE TYPE SYMBOL — SEE LIGHTING FIXTURE SCHEDULE THIS SHEET.

← EMERGENCY BATTERY POWERED LIGHTING UNIT

DUPLEX CONVENIENCE RECEPTACLE, 20A, 125 VAC, MOUNT 18" A.F.F., U.O.N.

DUPLEX CONVENIENCE RECEPTACLE WITH INTERNAL GROUND FAULT PROTECTION, 20 A 120VAC, MOUNT 42" A.F.F., OR 8" ABOVE COUNTERTOP, U.O.N.

WEATHERPROOF DUPLEX CONVIENCE RECEPTACLE WITH INTERNAL GROUND FAULT PROTECTION, 20A, 120VAC, MOUNT 24" A.F.G., U.O.N.

S SINGLE POLE SWITCH, 20A, 120/277V.

SINGLE POLE SWITCH, 20A, 120/277V. LOWER CASE SUBSCRIPT, WHEN USED, INDICATES FIXTURES CONTROLLED

S₇ THREE-WAY SWITCH, 20A, 120/277V.

SA FOUR-WAY SWITCH, 20A, 120/277V.

SM MANUAL MOTOR STARTER SWITCH WITH OVERLOADS.

Sp SINGLE POLE SWITCH WITH "RED" PILOT LIGHT TO INDICATE "ON". 20A. 120/277V

SWP SINGLE POLE SWITCH WITH WEATHERPROOF COVER, 20A, 120/277V

(F) ELECTRICAL EQUIPMENT CONNECTION

MOTOR CONNECTION, HP INDICATED.

DISCONNECT SWITCH, 240 VOLTS IN NEMA 1 ENCLOSURE U.O.N. RATING AS INDICATED.

ELECTRICAL PANELBOARD, 208Y/120V, 3 PHASE, 4 WIRE

OR OR THE BRANCH CIRCUIT OR FEEDER WIRING IN CONDUIT. NO TICK MARKS INDICATE 2 #12 CONDUCTORS & 1 #12 GND. IN 1/2" CONDUIT, U.O.N. TICK MARKS, WHEN SHOWN, INDICATE NUMBER OF #12 CONDUCTORS IF OTHER THAN THREE: (7) INDICATES GROUND. CONDUIT LARGER THAN 1/2" & WIRE LARGER THAN #12 SHALL BE AS INDICATED.

 H^{-} Homeruns to Panel. Panel & Circuit designations as indicated.

INDICATES A CONDUIT RUN CONCEALED IN CEILING, WALL, FLOOR, OR ABOVE SUSPENDED CEILING. U.O.N.

——— INDICATES AN EXPOSED CONDUIT RUN.

TELEPHONE TERMINAL BACKBOARD (TBB)

▼ WALL TELEPHONE OUTLET, MOUNT 54" A.F.F.

 $abla_{\mathsf{MS}}$ INTERCOM MASTER STATION, MOUNT 54" A.F.F.

 $abla_{RS}$ Intercom remote station, mount 54" A.F.F.

TS TIME SWITCH

FACP FIRE ALARM CONTROL PANEL (FACP)

FIRE ALARM MANUAL STATION, 48" A.F.F.

FIRE ALARM HORN/STOBE MOUNT 80" A.F.F. "WP" INDICATES WEATHERPROOF.

▼ FIRE ALARM STROBE, MOUNT 80"A.F.F.

S PHOTO ELECTRICAL SMOKE DETECTOR, CEILING MOUNTED

T) SPRINKLER SYSTEM O,S, & Y TAMPER SWITCH.

P SPRINKLER SYSTEM WATER FLOW PRESSURE SWITCH.

SPRINKLER SYSTEM LOW AIR PRESSURE SUPERVISORY SWITCH

IDS INTRUSION DETECTION SYSTEM CONTROL PANEL (GFGI). PROVIDE CONDUIT WITH PULL WIRE.

D IDS MAGNETIC DOOR CONTACT, FLUSH MOUNTED U.O.N. (GFGI). PROVIDE 1/2" CONDUIT WITH PULL WIRE FROM HEAD OF DOOR FRAME TO CONTROL PANEL.

IDS KEY PAD, MOUNT 48" AFF (GFGI). PROVIDE 4"x4"x1-1/2"
OUTLET BOX WITH SINGLE GANG RISE AND BLANK COVER.
PROVIDE 1/2" CONDUIT WITH PULL WIRE TO CONTROL PANEL.

ES ELECTRIC DOOR STRIKE RELEASE

PIR PASSIVE INFRARED MOTION DETECTOR, CEILING MOUNTED (GFGI).
PROVIDE 4"x4"x1-1/2" OUTLET BOX WITH BLANK COVER AND
1/2" CONDUIT WITH PULL WIRE TO CONTROL PANEL.

B DISTRESS BUTTON, MOUNT 48" AFF. PROVIDE 4"x4"x1-1/2" OUTLET BOX WITH SINGLE GANG RISE AND BLANK COVER. PROVIDE 1/2" CONDUIT WITH PULL WIRE TO CONTROL PANEL.

BBH-1 ELECTRICAL BASEBOARD HEATER CONNECTION

D THERMOSTAT, PROVIDED UNDER DIVISION 15.

1 ROOM NUMBER

01) DOOR DESIGNATION

EXISTING MANHOLE CABLE SCHEDULE CABLE CONDUIT IDENTIFICATION SIZE **DESCRIPTION** REMARKS (INCHES) EXIST NEW SEE DUCTBANK DETAIL "A" AND "B" 3-1/C #4/0 15KV CU. EPR 133% SHEET E-2 INSULATION. #4/0 600V SECONDARY SERVICE

ELECTRICAL LEGEND (EXTERIOR UNDERGROUND)

DESCRIPTION AS INDICATED.

-SPARE DUCT (TYPICAL)

CABLE SCHEDULE.

CABLE SCHEDULE.

TYPICAL DESIGNATIONS

TO BE USED IN

CONJUNCTION WITH

CONDUIT SYMBOLS -

-INDICATES FRONT.

3 PHASE, 4 WIRE

U.O.N.

U.O.N. DESCRIPTION AS INDICATED.

-HEAVY LINE INDICATES BOTTOM OF DUCT

-OCCUPIED DUCT, UNIDENTIFIED CABLE.

DESCRIPTION

UNDERGROUND DUCTBANK, CONCRETE ENCASED U.O.N.

EXISTING UNDERGROUND DUCTBANK, CONCRETE ENCASED

-SYMBOL REFERS TO SPECIFIC DUCTBANK SECTION DETAIL.

DUCTBANK SECTION LOOKING IN DIRECTION OF ARROWS.

-EXIST. CABLE DESIGNATION (TYPICAL) DESCRIPTION PER

-NEW CABLE DESIGNATION (TYPICAL) DESCRIPTION PER

UNDERGROUND CONDUIT, CONCRETE ENCASED U.O.N.

EXISTING UNDERGROUND CONDUIT, CONCRETE ENCASED

PAD MOUNTED TRANSFORMER, 75 KVA, 13.2 KV-208Y/120V,

EXISTING PAD MOUNTED 4 WAY, 15 KV OIL SWITCH

UP - UNDERGROUND PRIMARY

\US - UNDERGROUND SECONDARY

UT — UNDERGROUND TELEPHONE

REFER TO CONSTRUCTION CONTRACT

NO. N62477-00-C-0094

/ EUP - EXISTING UNDERGROUND PRIMARY

\ EUT - EXISTING UNDERGROUND TELEPHONE

GENERAL ELECTRICAL NEW WORK NOTES

INSULATION.

3-1/C #4/0 15KV CU. EPR 133%

<u>SYMBOL</u>

- 1. UNLESS SPECIFICALLY NOTED TO BE EXISTING, ALL WORK AND MATERIAL SHOWN IS NEW AND SHALL BE PROVIDED BY THE CONTRACTOR. WHEREVER A "NEW TO EXISTING" CONNECTION IS REQUIRED. PROVIDE ALL ACCESSORIES, SPLICES, CONDUIT, FITTINGS, TERMINATIONS, MISCELLANEOUS HARDWARE AND COMPONENTS AS NECESSARY TO AFFECT CONNECTIONS. PROVIDE ALL CUTTING AND PATCHING AS NECESSARY.
- 2. FOR THE NEW ELECTRICAL CONDITIONS, ALL CONDUIT SHALL BE CONCEALED IN FINISHED SPACES EXCEPT AS SPECIFICALLY INDICATED OTHERWISE. EXPOSED CONDUIT MAY BE PROVIDED IN UNFINISHED SPACES SUCH AS MECHANICAL ROOMS, ELECTRICAL CLOSETS AND EXPOSED ON CONCRETE CEILINGS.
- 3. CONDUIT PENETRATIONS THROUGH BLOCK, BRICK AND/OR CONCRETE WALLS, FLOORS AND OTHER SIMILAR CONSTRUCTION SHALL BE ACCOMPLISHED BY CORE DRILLING OR PRESET SLEEVES. SEE SPECIFICATIONS FOR CONDUIT SLEEVE REQUIREMENTS. SEAL AND CAULK AROUND THE CONDUIT. PROVIDE PROPERLY RATED FIRE SEALS FOR ALL CONDUITS WHICH PENETRATE FIRE RATED CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED CONSTRUCTION.
- 4. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHTING FIXTURES.

/IRGINIA BEACH, VA - 757-499-7223

ALC	ADOVE FINISHED FEOUN
AFG	ABOVE FINISHED GRADE
AHU	ANEDICAN WIDE CALLOE
AWG	AMERICAN WIRE GAUGE
BBH BKR	BASEBOARD HEATER BREAKER
C	CONDUIT OR CENTIGRADE
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CL	CLASS
CU	COPPER OR COEFFICIENT OF UTILIZATION
DDC	DIRECT DIGITAL CONTROLS
DIA	DIAMETER
EC	EMPTY CONDUIT
EUP	EXISTING UNDERGROUND PRIMARY
EUT	EXISTING UNDERGROUND TELEPHONE
EPR	ETHYLENE PROPYLENE RUBBER
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXIST	EXISTING
F	FAHRENHEIT
FACP	FIRE ALARM CONTROL PANEL
FSS	FUSIBLE SAFETY SWITCH
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI	GOVERNMENT FURNISHED GOVERNMENT INSTALLED
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HP HPS	HORSE POWER OR HEAT PUMP HIGH PRESSURE SODIUM
IDS	INTRUSION DETECTION SYSTEM
KAIC KVA	KILO (1000) AMPERES INTERRUPTING CAPACITY KILO (1000) VOLT AMPERES
KV	KILO (1000) VOLTS
ŔŴ	KILO (1000) VOLTS KILO (1000) WATTS
MLO	MAIN LUGS ONLY
MH	MANHOLE
MT	MOUNT
MTG HT	MOUNTING HEIGHT
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERES
MCB	MAIN CIRCUIT BREAKER
MFA	MAXIMUM FUSE AMPERES
MIN	MINIMUM
NEMA	NATIONAL MANUFACTURER'S ASSOCIATION
NIC	NOT IN CONTRACT
NO.	NUMBER
NFSS	NON FUSIBLE SAFETY SWITCH
NTS OD	NOT TO SCALE OUTSIDE DIAMETER
0.S.& Y	OUTSIDE STEM AND YOKE
P	POLE
PIR	PASSIVE INFRARED
PNL	PANEL
PNLBD	PANELBOARD
PSI	POUNDS PER SQUARE INCH
RCR	ROOM CAVITY RATIO
RECEPT	RECEPTACLE
REQ'D	REQUIRED
תבע ט SPST	SINGLE POLE SINGLE THROW
3 = 3	

SINGLE POLE SINGLE THROW

UNLESS OTHERWISE NOTED

UNDERGROUND PRIMARY UNDERGROUND SECONDARY

UNDERGROUND TELEPHONE

UNDER WRITER LABORATORY

WEATHERPROOF EQUIPMENT

VOLTS ALTERNATING CURRENT

TELEPHONE BACKBOARD

TYPICAL UNDERGROUND

WIRE OR WATTS

SINGLE CONDUCTOR

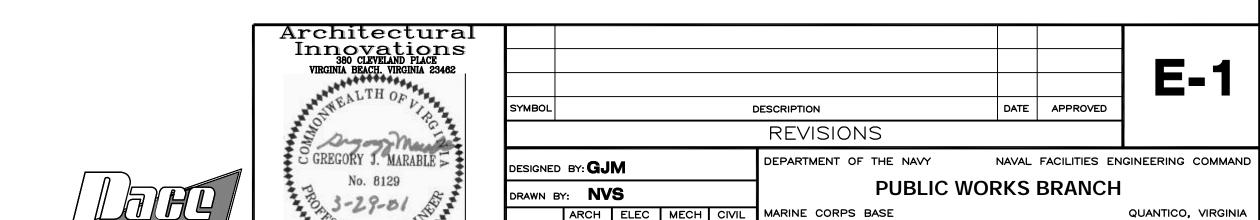
TRANSFORMER

XFMR

ELECTRICAL ABBREVIATIONS

ABOVE FINISHED FLOOR

AMPERES



GRAPHIC SCALES

1" = 30'-0" 30' 15' 0' 30' 60' 90'

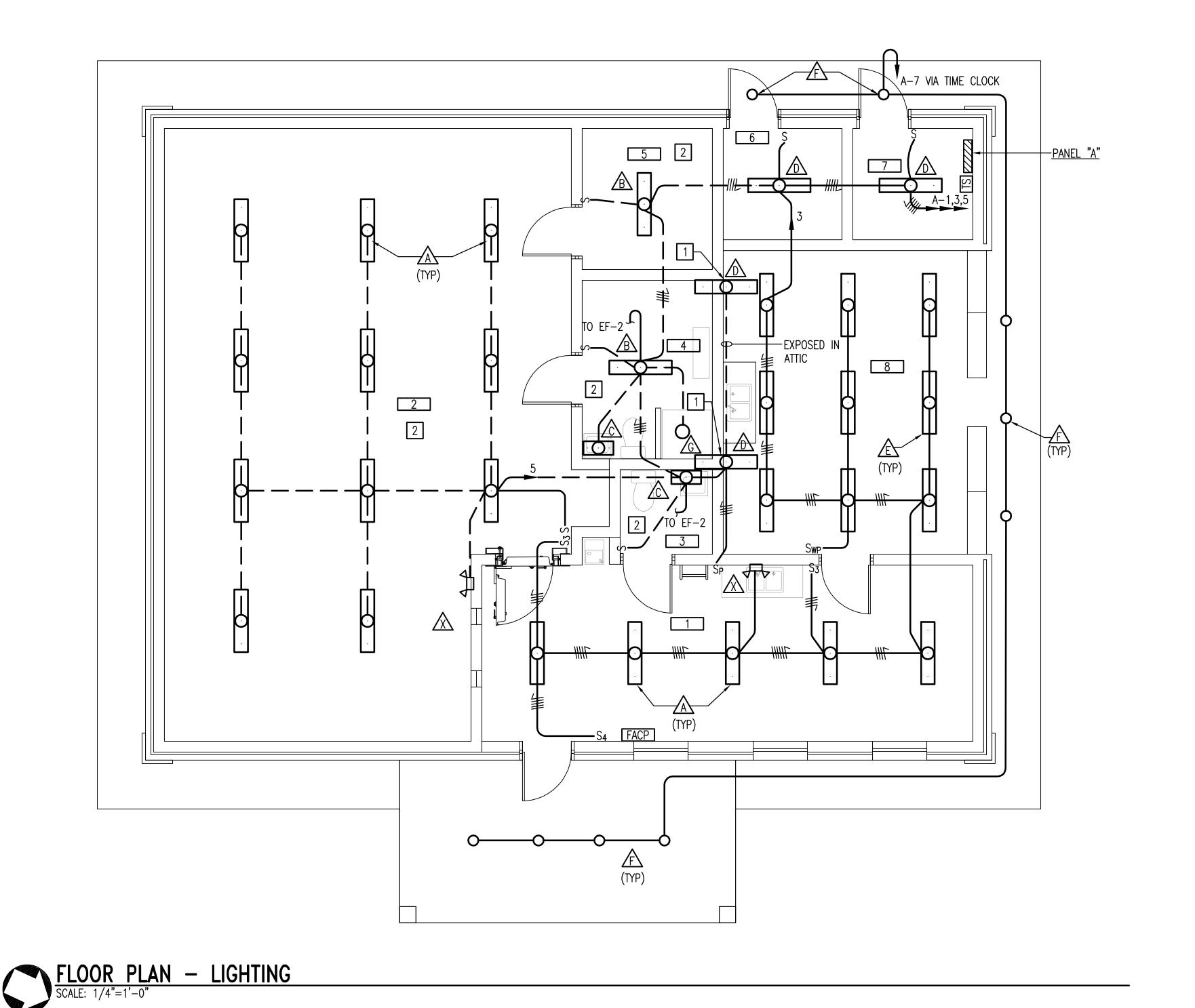
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ELECTRIC LEGEND, SCHEDULES & NOTES

CONSTRUCT MCAF ARMORY

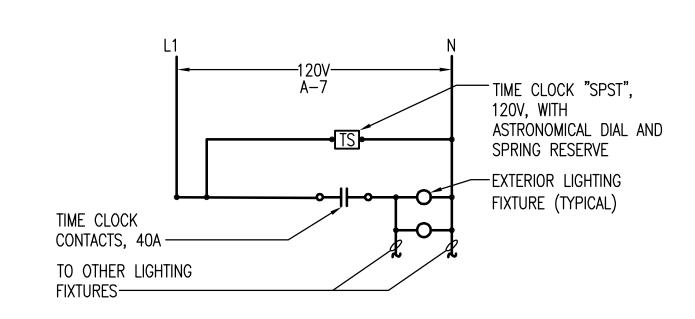
SIZE CODE IDEN. NO. CONTRACT NO. NAVFAC DRAWING NO. N26477-00-C-1048 3179 494

SCALE: NOTED SPEC: 21-00-1048 SHEET 25 OF 29



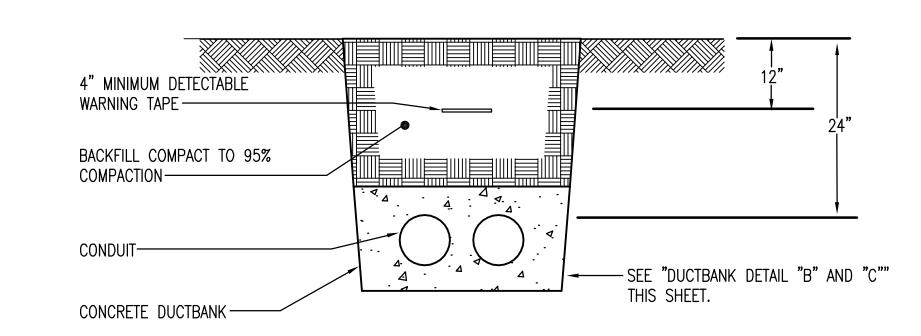
NOTES THIS SHEET

- MOUNT TYPE A IN ATTIC FOR MECHANICAL EQUIPMENT MAINTENANCE. CONTROL FROM SWITCH NEAR HATCH.
- 2 CONDUIT RUN OVERHEAD IN THIS ROOM SHALL BE EXPOSED AT THE BOTTOM OF THE PRECAST CONCRETE DECK. ALL OTHER CONDUIT SHALL BE CONCEALED IN WALLS OR FLOOR.



EXTERIOR LIGHTING CONTROL DIAGRAM

NO SCALE

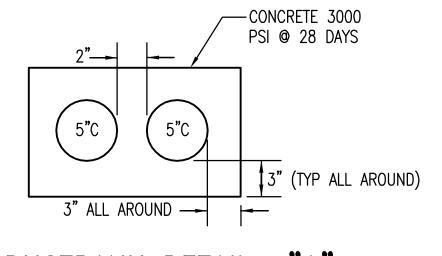


TRENCH DETAIL

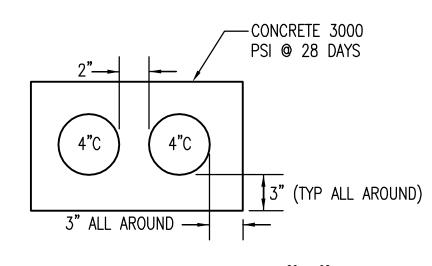
NO SCAL

	ROOM SCHEDULE									
NO. NAME										
1	INTERIOR WEAPONS CLEARING									
2	ARMORY									
3	TOILET									
4	TOILET									
5	WEAPON STORAGE									
6	HVAC									
7	ELECTRICAL ROOM									
8	EXTERIOR WEAPONS CLEANING									

SHEET **26** OF **29**

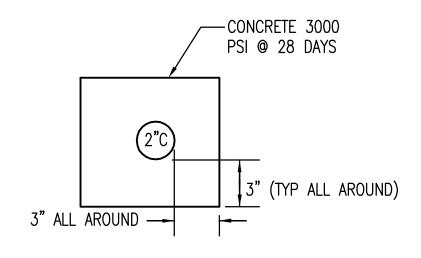




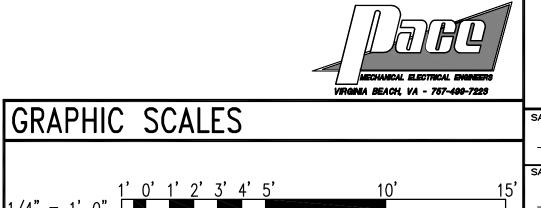


DUCTBANK DETAIL "B"

NO SCALE



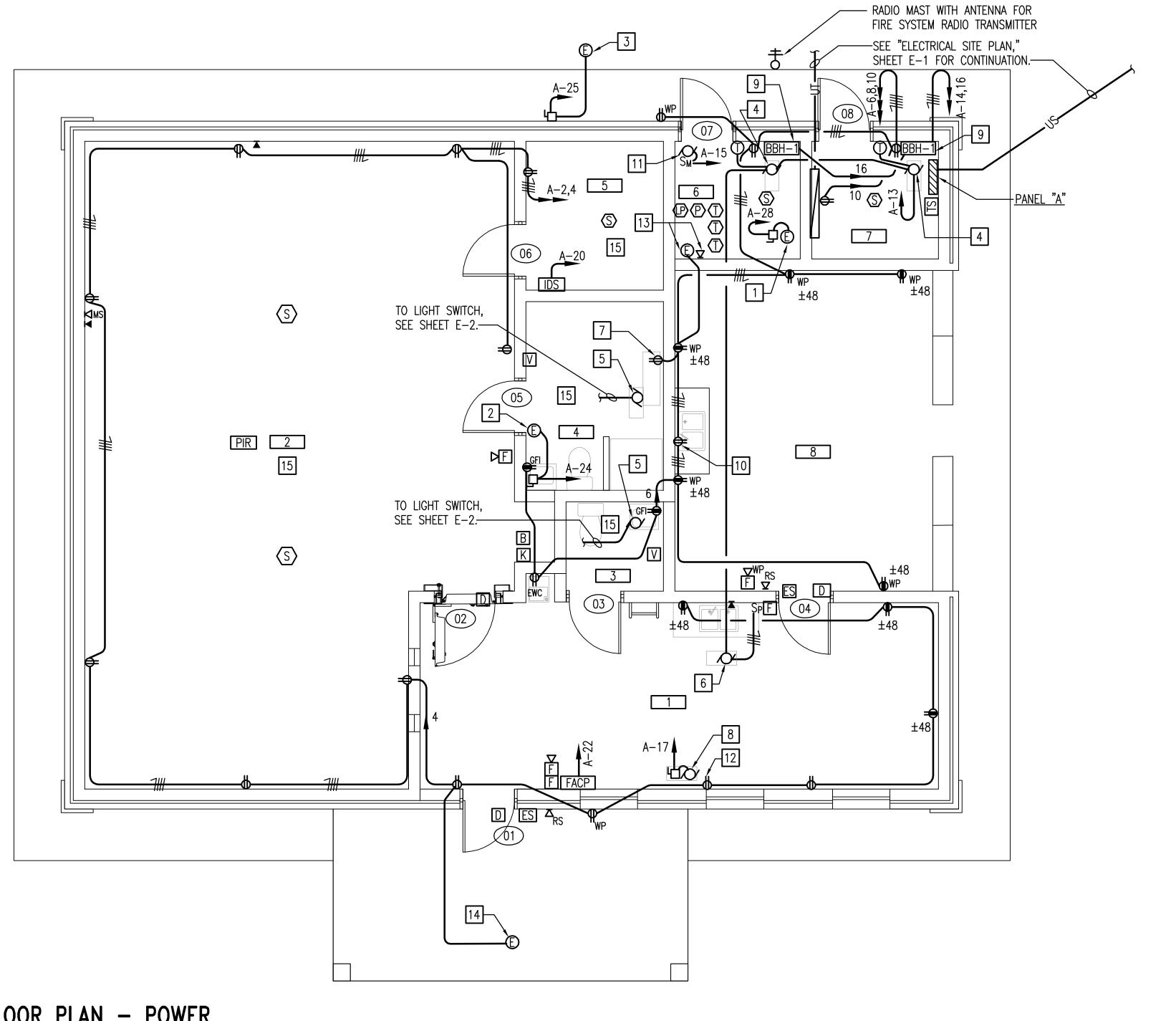
DUCTBANK DETAIL "C"



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Innovations 380 CLEVELAND PLACE VIRGINIA BEACH. VIRGINIA 23462									
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MEADIN	SYMBOL				ı	DESCRIPTION	DATE	APPROVED	
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SCALE: NOTED | SPEC: 21-00-1048



	PANELBOARD "A" SCHEDULE															
225A N	ИСВ,	208	//120	DV, 3	PHAS	E, 4	WI	₹E,	10 K	AIC	MINIM	IUM, SL	IRFA	CE N	MUUN	IT
LOAD SERVED	LOA A	D (AMF B	C (2'	BKR. Trip	WIRE SIZE	CKT. ND.	1	PHAS A B	E C	CKT. ND.	VIRE SIZE	BKR. Trip	LOA A	D (AMP B	(S)	LOAD SERVED
LIGHTING #2	14.7			20	12	1		\vdash	+~	2	12	20	9.0			RECEPT#1
LIGHTING #1, 8		12.7		20	12	3	7		+~	4	12	20		10.5		RECEPT#2, 5
LIGHTING #3, 4, 5, 6, 7			4.4	20	12	5	7	\prod	→	6	12	20			8.0	RECEPT#3, 4
EXTERIOR LIGHTING	7.5			20	12	7	7		+~	8	12	20	12.0			RECEPT#6, 7, 8
SPARE				20		9	7		+~	10	12	20		5.0		TELEPHONE
SPARE				20		11	7	\prod	+-	12		20				SPARE
EF-1,2,3	4.0			20	12	13	7	\vdash	+~	14	12	20	8.4			BBH-1
FP SPRINKLER		7.2		20	12	15	~	H	+~	16	12	20		8.4		BBH-2
AIR COMPRESSOR, 3/4 HP			13.8	20	12	17	7	\prod	+~	18		20				SPARE
SPARE				20		19	~	$oldsymbol{\sqcap}$	<u> </u>	20	12	20	5.0			IDS
SPARE				20		21	~	H	+~	22	12	20		5.0		FACP
SPARE				20		23	~	H	+~1	24	6	50/2P			38.4	AHU-1
HP-1	31.9			50/2	8	25	۲^-	一			6		38.4			
		31.9			8			H	$+$ \sim_1	28	10	30/2P		21.7		EWH-1
SPACE ONLY						29	~	H			10				21.7	
SPACE ONLY						31	~	干	<u> </u>	32						SPACE ONLY
SPACE ONLY						33	7		+~	34						SPACE ONLY
SPACE ONLY						35	~		-	36						SPACE ONLY
SPACE ONLY						37	~		+	38						SPACE ONLY
SPACE ONLY						39	~		1	40						SPACE ONLY
SPACE ONLY						41	~		-	42						SPACE ONLY
TOTAL	58.1	51.8	18.2										72.8	50.6	68.1	TOTAL
			TO	TAL COI	NNECTI	ED AI	MPS	A	: 130	0.9	B:	102.4		C: 8	6.3	

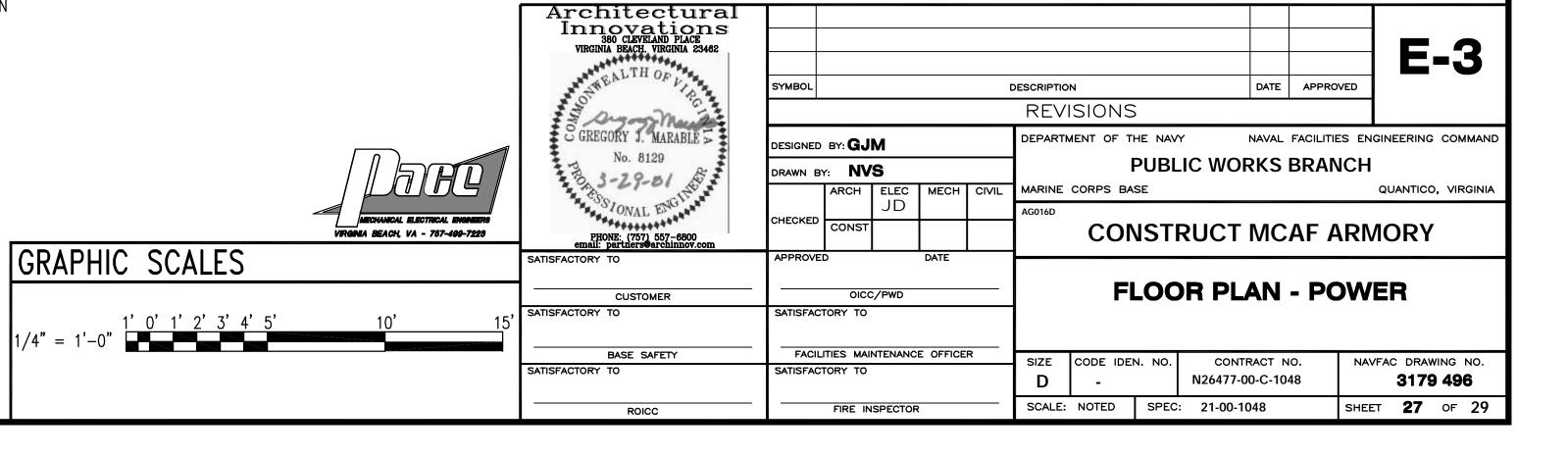
ROOM SCHEDULE	
NO.	NAME
1	INTERIOR WEAPONS CLEARING
2	ARMORY
3	TOILET
4	TOILET
5	WEAPON STORAGE
6	HVAC
7	ELECTRICAL ROOM
8	EXTERIOR WEAPONS CLEANING

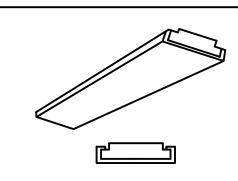
FLOOR PLAN - POWER SCALE: 1/4"=1'-0" NOTES THIS SHEET (THIS SHEET ONLY)

- 1 EWH-1 CONNECTION, 4.5KW, 208V, 1ø. PROVIDE 30A-2P NFSS, 2 #10, 1 #12 GND 1/2"C
- 2 AHU-1 CONNECTION (IN ATTIC SPACE), 48 MCA, 50 MFA, 208V, 1ø. PROVIDE 60A-2P NFSS, 2 #6, 1 #10 GND 3/4"C
- 3 HP-1 CONNECTION, 31.9 MCA, 50 MFA, 208V, 1¢. PROVIDE 60A-2P FSS NEMA 3R, FUSE AT 50A CL RK-5, 2 #8, 1 #10 GND 3/4°C
- 4 EF-1 CONNECTION (ABOVE CEILING), 1/40 HP, 120V. CONTROL FROM ROOM THERMOSTAT, SEE MECHANICAL DRAWINGS. INSTALL ELECTRONIC SPEED CONTROLLER (TYP FOR 2).
- 5 EF-2 CONNECTION (ABOVE CEILING), 1/30 HP, 120V. CONNECT TO TOILET ROOM SWITCHED LIGHTING CIRCUIT. INSTALL ELECTRONIC SPEED CONTROLLER AT FAN (TYP FOR 2).
- 6 EF-3 CONNECTION (ABOVE CEILING), 1/20 HP, 120V.
 PROVIDE SWITCH WITH PILOT LIGHT AND INSTALL FAN SPEED CONTROLLER FURNISHED WITH FAN.

- 7 RECEPTACLE MOUNTED IN ATTIC SPACE FOR MECHANICAL EQUIPMENT.
- 8 AIR COMPRESSOR CONNECTION, 3/4HP, 120V, 1ø. PROVIDE MOTOR STARTER SWITCH.
- 9 ELECTRIC BASEBOARD HEATER (BBH-1) CONNECTION, 1000W, 120V
- 10 RECEPTACLE UNDER SINK FOR HEAT TAPE, 120V, FOR SINK TRAP AND WATER CONNECTIONS.
- 11 DRY PIPE SPRINKLER AIR COMPRESSOR, CONNECTION, 1/3 HP, 120V, PROVIDE MANUAL MOTOR STARTER SWITCH AND INSTALL PRESSURE SWITCH.
- 12 AIR DRYER CONNECTION; 3.4A, 120V. PROVIDE RECETPACLE.
- 13 DDC CONTROL POWER CONNECTION, 120V. PROVIDE TELEPHONE OUTLET ADJACENT TO DDC CONTROL PANEL.
- 14 MOTORIZED DAMPER CONNECTION, 120V. IN ATTIC, SEE MECHANICAL.

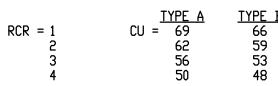
15 CONDUIT RUN OVERHEAD IN THIS ROOM SHALL BE EXPOSED AT THE BOTTOM OF THE PRECAST CONCRETE DECK. ALL OTHER CONDUIT SHALL BE CONCEALED IN WALLS OR FLOOR.





LUMINAIRE REQUIREMENTS

- 1. 0.032" MIN. THICKNESS FORMED STEEL HOUSING. CHEMICAL TREATMENT FOR RUST PREVENTION. BAKED WHITE ENAMEL FINISH 85% MIN REFLECTANCE (INTERIOR). ENTIRE HOUSING SHALL BE PAINTED WHITE, AFTER FABRICATION. HOUSING SHALL NOT PERMANENTLY DEFORM NOR SHALL IT DEFLECT MORE THAN ONE INCH (TWO INCHES FOR TYPE B) WHEN LIFTED BY ONE CORNER.
- 2. SECURE HOUSING ENDS BY RIVETS OR SCREWS. PROVIDE A KNOCKOUT IN EACH END AND TWO IN TOP OF HOUSING. HOUSING SHALL HAVE INTERNAL GREEN GROUNDING SCREW.
- 3. OVERALL LUMINAIRE LENGTH SHALL BE 48 INCHES NOMINAL. OVERALL WIDTH SHALL BE 12 INCHES MINIMUM FOR 2 LAMP, 15-1/2 INCHES MINIMUM FOR 4 LAMP. OVERALL HEIGHT SHALL BE 3-1/2 INCHES MAXIMUM.
- 4. LENS SHALL BE CLEAR 100% ACRYLIC HAVING A MINIMUM DVERALL (BOTTOM OF LENS) THICKNESS OF 0.140 INCH WITH A MAXIMUM PRISM PENETRATION DEPTH OF 0.07 INCHES (0.055 INCH MIN. DVERALL SIDE THICKNESS).
- 5. LENS SHALL BE PRISMATIC TYPE, INJECTION MOLDED INTO A SINGLE 5-SIDED UNIT WITH 1/2 INCH MINIMUM RE-ENTRANT FLANGE ON EACH LONG SIDE FOR ADDITIONAL
- 6. LENS SHALL BE CAPABLE OF HINGING AND LATCHING FROM EITHER SIDE OF FIXTURE.
- . BALLAST: HIGH P□WER FACTOR (<u>></u> .95) INSTANT START CLASS P ELECTRONIC BALLAST WITH SOUND RATING OF "A". SECURE BALLASTS TO HOUSING WITH AT LEAST ONE SCREW AND SLIP ON BRACKET OR TWO SCREWS - ONE AT EACH END.
- 8, PHOTOMETRICS: MINIMUM COEFFICIENT OF UTILIZATION (CU) FOR THE FOLLOWING CEILING = 80% WALL = 50% FLOOR = 20% CAVITY REFLECTANCES:



9. MINIMUM SPACING CRITERIA: 1.3

TYPE B - 4 F32/T8 LAMPS

SURFACE MOUNTED WRAP-AROUND LUMINAIRE FOR PREMIUM OFFICE/CLASSROOM TYPE SPACES

SKETCH DATE NOVEMBER 1995 STYLE

A B

UP AND DOWN LIGHT UP AND/OR DOWN LIGHT (SEE NOTE 9) DOWN LIGHT ONLY (SOLID TOP REQ'D) TYPE B - 2 F25/T8 LAMPS
TYPE C - 2 F32/T8 LAMPS WALL-MOUNTED FLUORESCENT SKETCH DATE FEBRUARY 1998 STYLE

0.032" MINIMUM THICKNESS STEEL BACK PLATE AND REFLECTOR. CHEMICAL TREATMENT FOR RUST PREVENTION. BAKED WHITE ENAMEL FINISH. PROVIDE KNOCKOUTS THROUGH

0.032' MINIMUM THICKNESS DIE FORMED STEEL OR EXTRUDED ALUMINUM HOUSING. BAKED BLACK ENAMEL OR BRUSHED ALUMINUM FINISH OR WOOD GRAIN VINYL ON ALUMINUM HOUSING, UNLESS INDICATED OTHERWISE. STEEL HOUSING SHALL HAVE ALL JOINTS WELDED AND GROUND SMOOTH. HOUSING SHALL BE PAINTED AFTER FABRICATION.

MAXIMUM OVERALL LUMINAIRE HEIGHT SHALL BE 5-1/2 INCHES. MAXIMUM LUMINAIRE DEPTH SHALL BE 8 INCHES. MAXIMUM LUMINAIRE LENGTH SHALL BE:

TYPE A - 26 INCHES
TYPE B - 38 INCHES
TYPE C - 50 INCHES

LOWER LENS SHALL BE CLEAR SINGLE PIECE 100% ACRYLIC HAVING AN OVERALL NOMINAL THICKNESS OF 0.110 INCHES PLUS OR MINUS 10%. UPLIGHT LENS SHALL BE

5. LENS SHALL BE PRISMATIC (TO REDIRECT LIGHT, PREVENTING DIRECT GLARE AT HIGH VIEWING ANGLES) OR LUMINAIRE SHALL HAVE OPAQUE FRONT.

6. LENS SHALL HAVE SPRING STEEL LATCHES FOR RETAINING LENS, OR POSITIVE MEANS OF HOLDING LENS IN PLACE.

7. LUMINAIRE SHALL PROVIDE UP AND DOWN LIGHT. UP LIGHT SHALL BE SEPARATELY SWITCHED WHERE INDICATED. LAMPS SHALL BE ENCLOSED ON TOP AND BOTTOM.

8. BALLAST SHALL BE HIGH POWER FACTOR (≥ .95) INSTANT START CLASS P ELECTRONIC BALLAST WITH SOUND RATING OF "A". SECURE BALLASTS TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS - ONE AT EACH END.

WHERE LUMINAIRE REQUIRES SEPARATELY SWITCHED UP LIGHT, LUMINAIRE SHALL HAVE TWO BALLASTS AND METAL BAFFLE BETWEEN LAMPS.

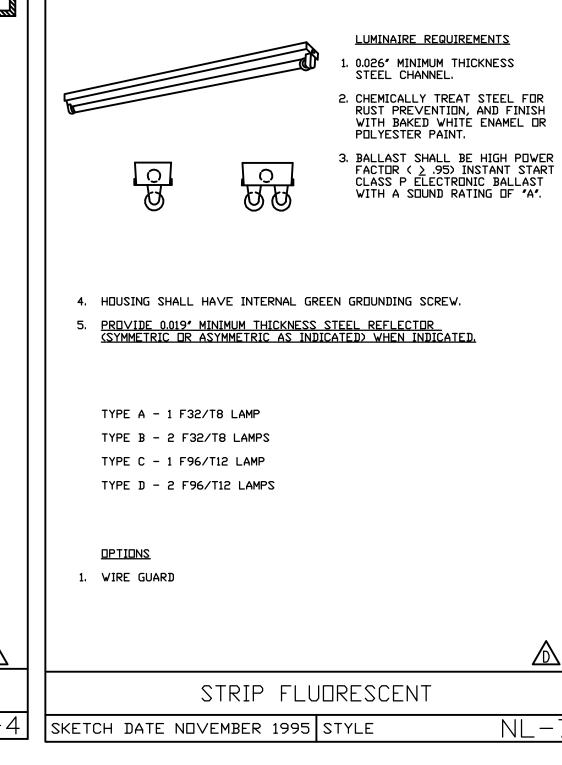
<u>OPTIONS</u>

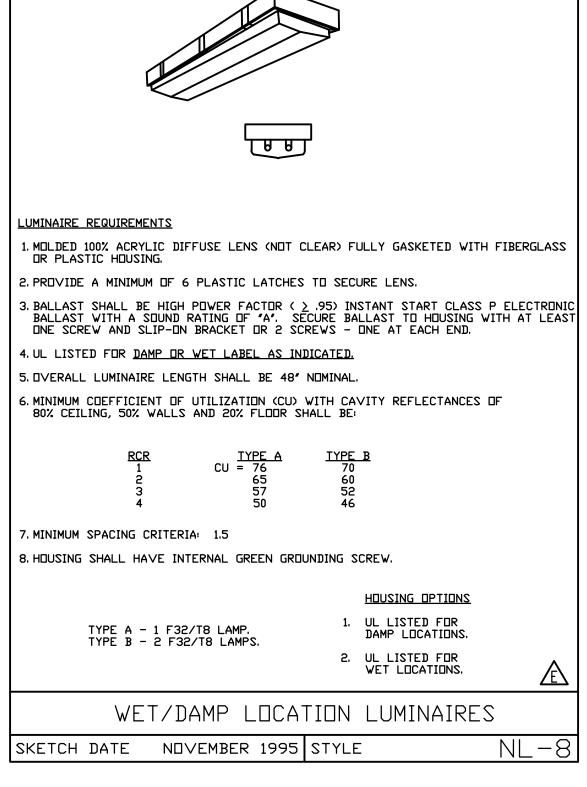
100% ACRYLIC WITH A MINIMUM OF 0.09 INCHES OVERALL THICKNESS.

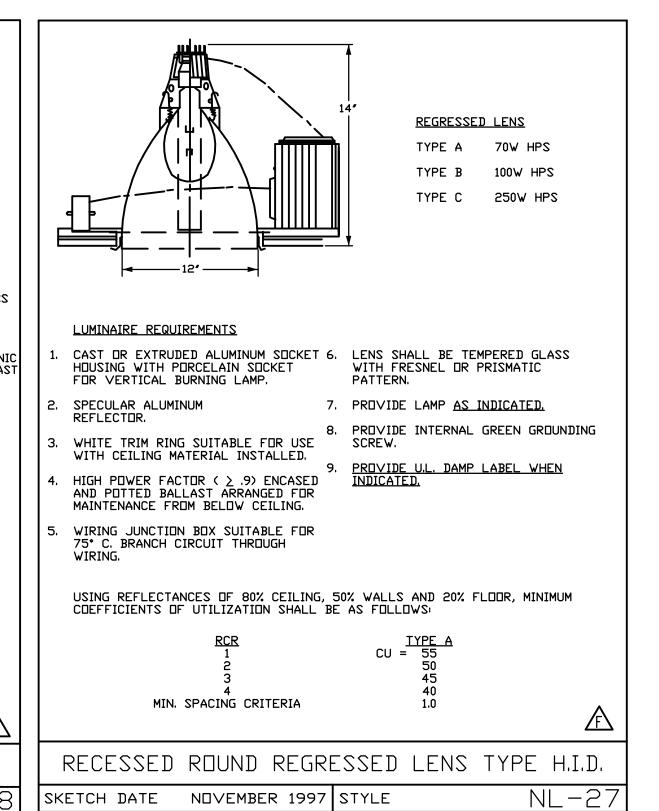
BACK PLATE. HOUSING SHALL HAVE INTERNAL GREEN GROUNDING SCREW.

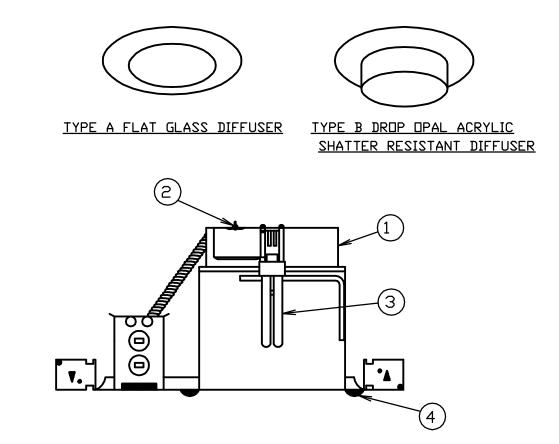
TYPICAL NL-4 FIXTURE CROSS

SECTIONS - SEE OPTIONS.







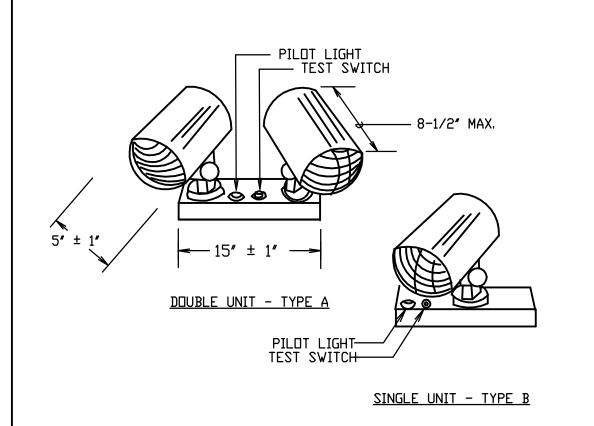


LUMINAIRE REQUIREMENTS

- (1) PAINTED STEEL HOUSING APPROX. 8" DIA. X 8" HIGH. PROVIDE INTERNAL GREEN GROUNDING SCREW.
- (2) HIGH POWER FACTOR (≥ .9) ELECTROMAGNETIC BALLAST.
- (3) F13/T4 DOUBLE TWIN TUBE COMPACT FLUORESCENT LAMP.
- 4 FACE TRIM MATTE WHITE ENAMEL (GASKETED) AS INDICATED.
- 5. FIXTURE SHALL BE UL LISTED FOR DAMP LOCATIONS.
- 6. DIFFUSER 8" □.D. ± 1".

RECESSED SHOWER LIGHT

NL-56 SKETCH DATE NOVEMBER 1995 STYLE



LUMINAIRE REQUIREMENTS

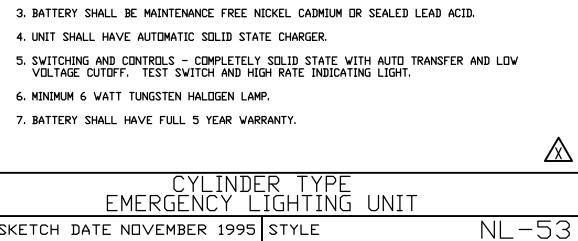
LUMINAIRE REQUIREMENTS

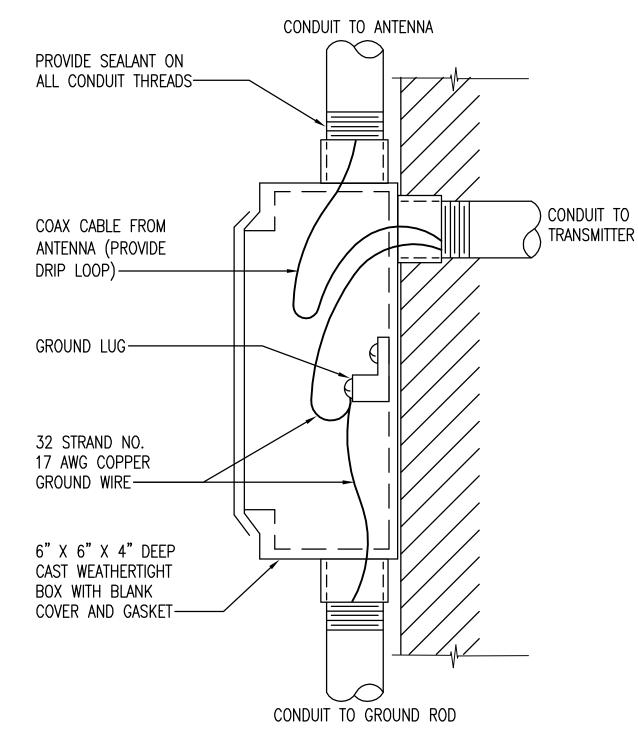
1. ALUMINUM FINISHED CHANNEL MOUNTING BASE WITH TEST SWITCH AND PILOT OR HIGH RATE INDICATING LIGHT. PROVIDE INTERNAL GREEN GROUNDING SCREW.

2. CYLINDERS FOR LIGHTS AND BATTERY AND CHARGER SHALL BE PAINTED MATTE WHITE AND

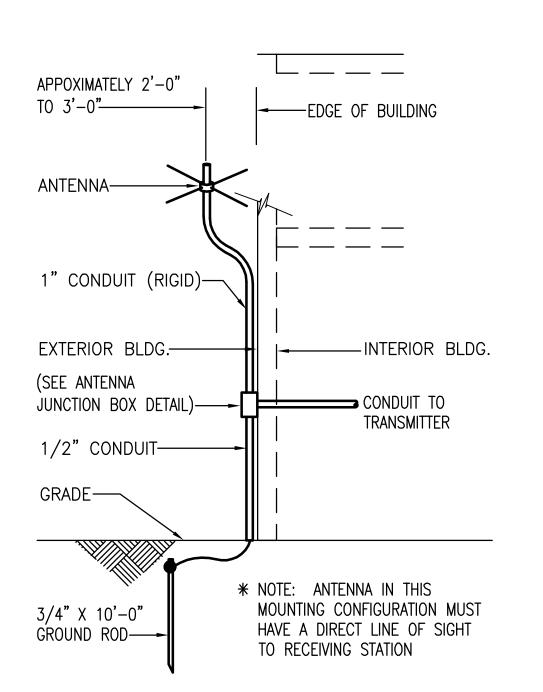
SHALL BE FULLY ADJUSTABLE. 3. BATTERY SHALL BE MAINTENANCE FREE NICKEL CADMIUM OR SEALED LEAD ACID.

CYLINDER TYPE EMERGENCY LIGHTING UNIT SKETCH DATE NOVEMBER 1995 STYLE

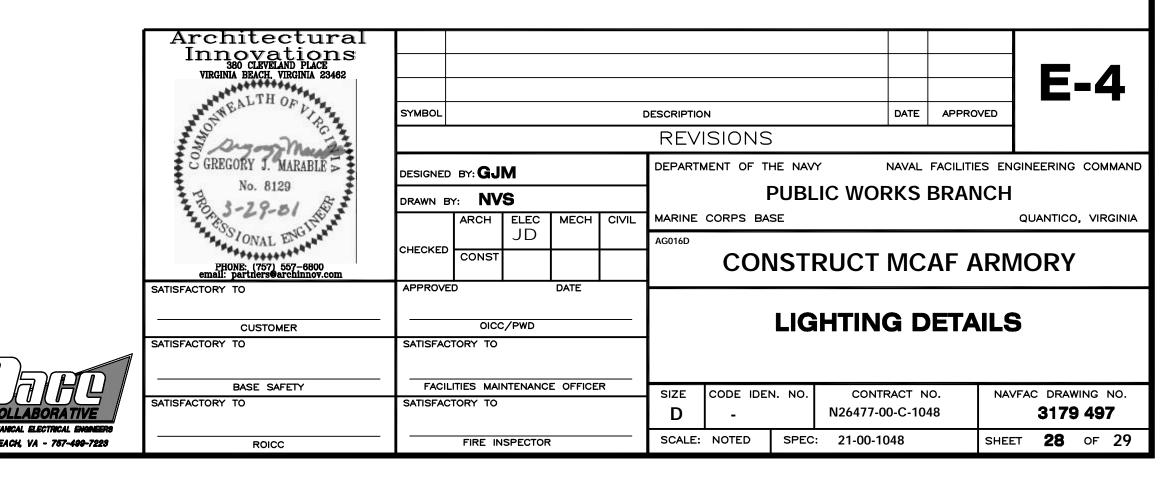




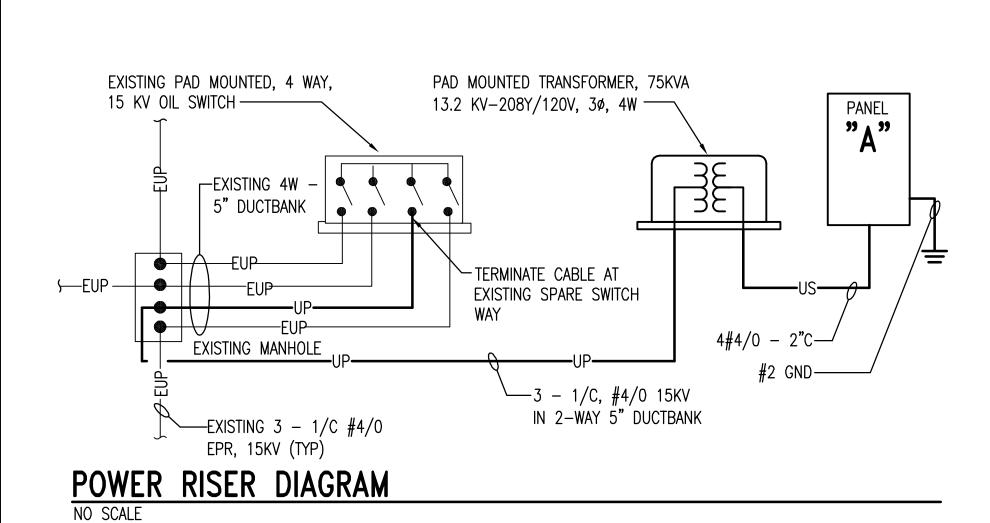
ANTENNA JUNCTION BOX DETAIL
NO SCALE

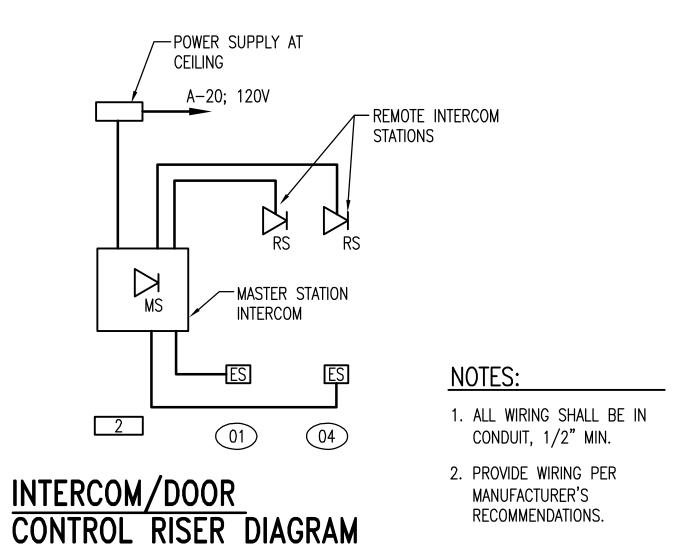


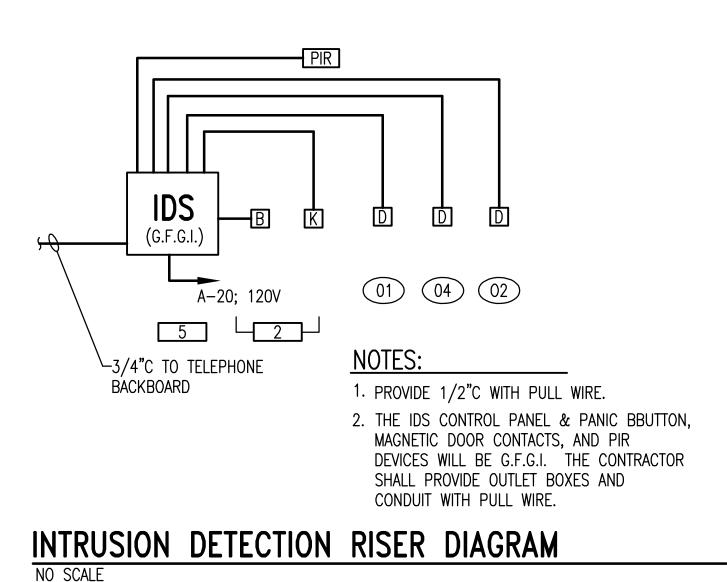
ANTENNA MOUNTING DETAIL

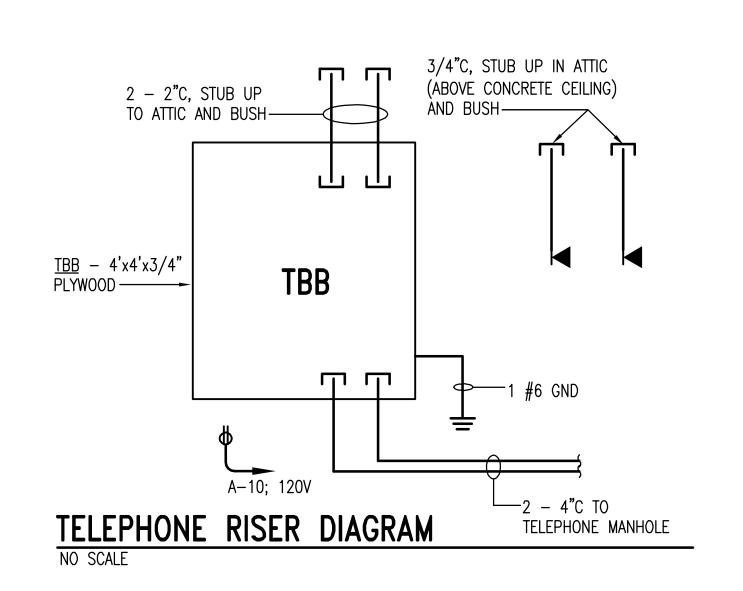


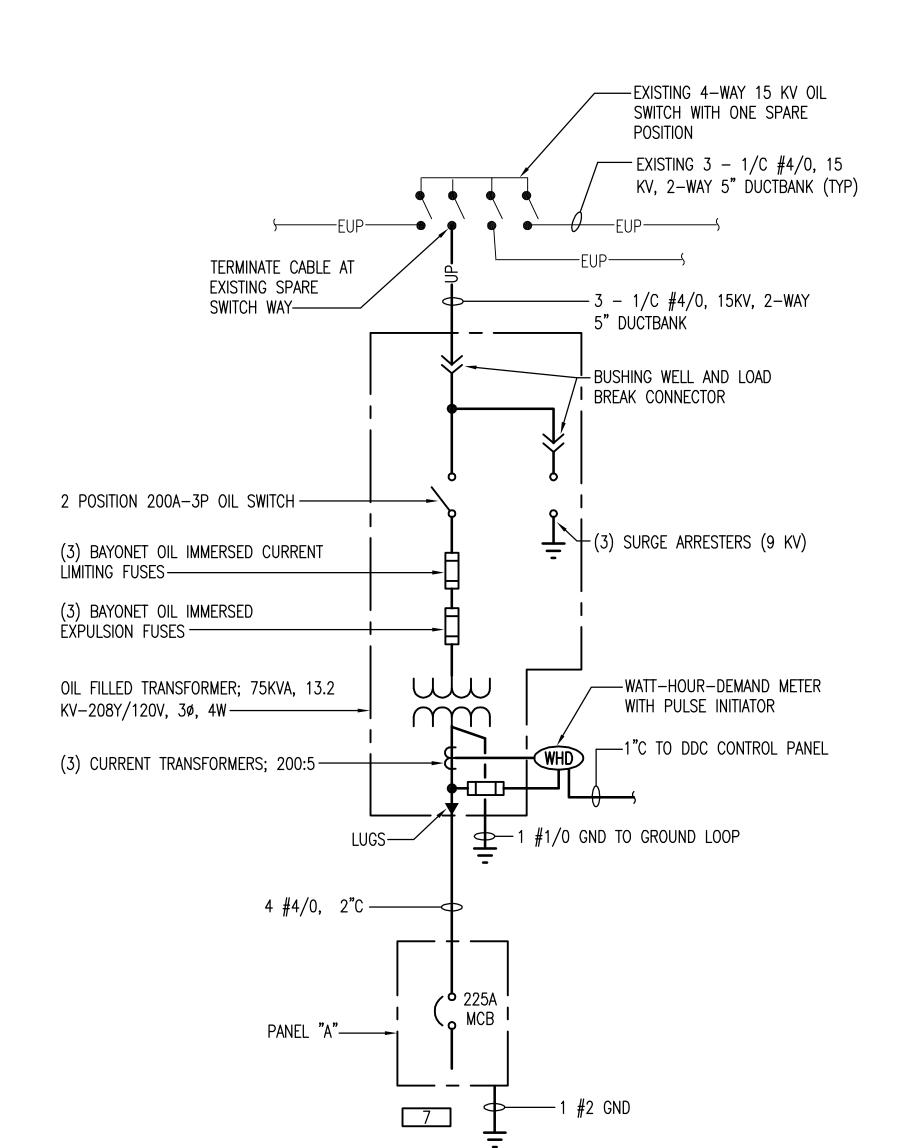












POWER ONE-LINE DIAGRAM

- WATTHOUR DEMAND METER WITH PULSE INITIATOR 2 POSITION LOAD BREAK OIL SWITCH-TRANSFORMER - SECONDARY COMPARTMENT BUSHING WELL--- LOW VOLTAGE CABLE BUSHING INSERT TERMINATIONS LOAD BREAK CONNECTOR — - GROUND PAD (TYP OF 2) CONCRETE PAD GRADE 2" NON-METALLIC CONDUIT SLEEVE, TYP OF 2 3/4" CONDUIT TO DDC CONTROL PANEL SECONDARY CIRCUIT PRIMARY CIRCUIT— GROUND ROD, TYP COPPER GROUNDING CONDUCTORS. OF 4, 1 AT EACH #4/0 BARE COPPER GROUND LOOP CORNER OF PAD. ENCIRCLING ENTIRE CONCRETE PAD. MIN. 18" BELOW FINISHED GRADE.

- CURRENT TRANSFORMERS

-#1/0, 600V INSULATION

─ 3-POLE FUSE BLOCK

PAD MOUNTED TRANSFORMER DETAIL NO SCALE

NO SCALE

NO SCALE

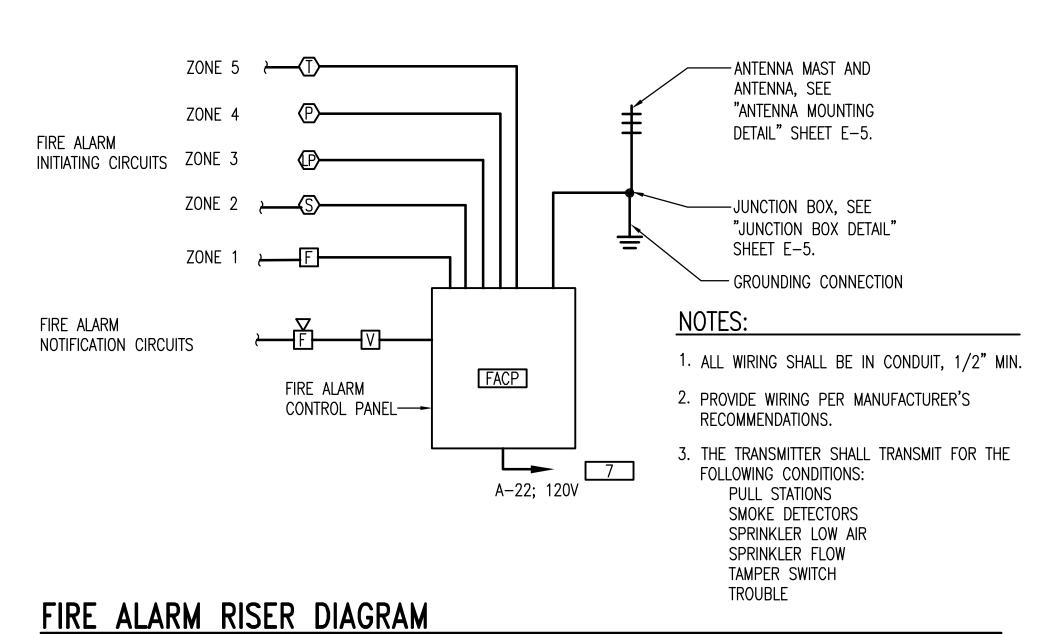
BAYONET OIL-IMMERSED EXPULSION FUSES —

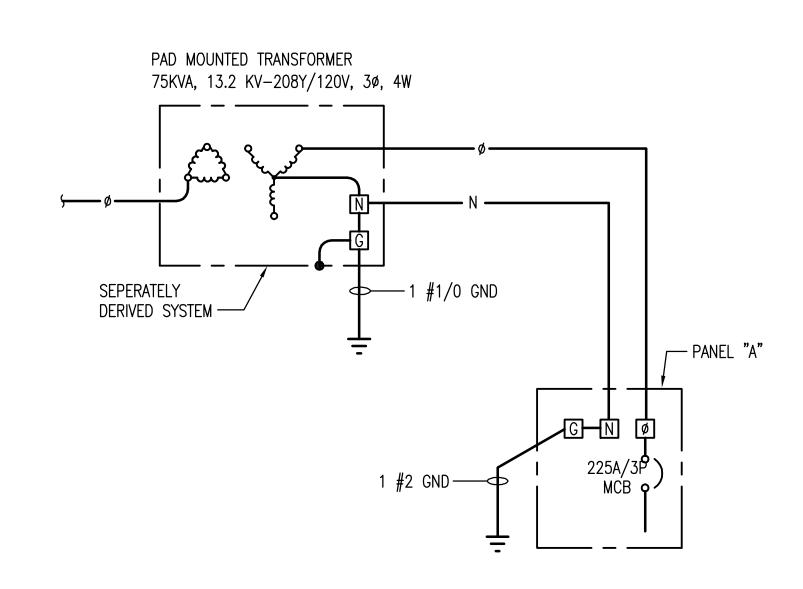
PRIMARY COMPARTMENT—

OIL-IMMERSED

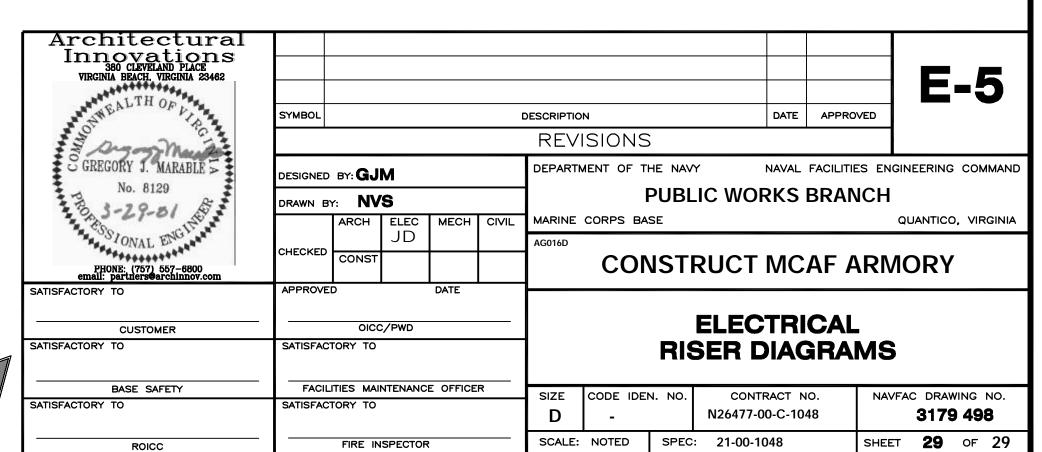
FUSES —

CURRENT-LIMITING





GROUNDING SYSTEM ONE-LINE DIAGRAM



/IR**GINI**A BEACH, VA - 757-499-7228